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of Christianity

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WILLIAM M. GOLDSMITH, Ph. D.

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"Out Where the West Begins"

AMERICAN TRUTH SERIES

The Truth About Evolution and Religion

Evolution or Christianity

God or Darwin

?

BY

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With Chapters By

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Introduction by

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"Flower in the crannied wall,
I pluck you out of the crannies,
I hold you here, root and all in my hand,
Little flower—but if I could understand
What you are, root and all, and all in all,
I should know what God and man is."

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PREFACE

It is not uncommon for young college students to become puzzled over the seeming conflicts between science and religion, especially if their college teachings appear to be out of harmony with their early training. Such was my experience during the larger part of my college career. However, shortly after my graduation, while teaching in a Baptist college, there fell into my hands a little volume by John W. Judd entitled "The Coming of Evolution" (Cambridge University Press, 1912) which caused a profound change in the direction of my thinking. On page 12 of this volume, which I now prize very highly, I find the following marginal note "This view gives me a stronger faith in the possibilities of a God—1913". The following is the section to which this comment was applied:

"Lyell writing to his friend John Herschel, who like himself believed in the derivation of new species from pre-existing ones by the action of secondary causes, wrote in 1836:

> " 'When I first came to the notion . . . . of a succession of extinction of species, and creation of new ones, going on perpetually now, and through an indefinite period of the past, and to continue for ages to come, all in accommodation to the changes which must continue in the inanimate and habitable earth, **the idea struck me as the grandest which I had ever conceived, so far as regards the attributes of the PRESIDING MIND.'** "

"And Darwin concludes his presentment of the doctrine of evolution in the **Origin of Species** in 1859 with the following sentence:

> " **'There is a grandeur in this view of life, with its several powers, having been originally breathed by the Creator . . .'** "

This one line of thought, namely the thought of harmonizing in my own life the teachings of the Scriptures and the facts of Science, so gripped me that I was no longer satisfied with my meager knowledge of either field. Consequently, I resigned my position and entered the Indiana University Graduate School. As I slowly plowed through the requirements for the Master of Arts and Doctor of Philosophy Degrees, and at the same time gleaned spiritual gems from the Methodist and Baptist churches, functioning part of the time as student secretary, the thought of a **"Presiding Mind"** over natural processes continued to grow upon me, and to grip my very life. However, the desire for more knowledge along these lines was so great that I decided, after teaching in a western institution for two years, to spend an additional year in study and research in Johns Hopkins University under the influence of Herbert S. Jennings and S. O. Mast—who never hesitate to weigh the evidences of the **vitalists** along side the teachings of the **mechanicists.**

At the culmination of this ten year internal struggle in my own life, I find myself in the midst of an external national conflict, indicating that thousands of progressive Americans are in like manner seeking a scientific approach to religion. The young student who has only a meager knowledge of the technique of either Science or Religion should consider seriously the position of the eminent workers who have gone into the mountains and valleys, and returned triumphantly proclaiming a renewed enthusiasm for both realms. Regardless of the accusations to the contrary, **science has been from the beginning, and still is, dominated by devout Christian men.** Robert A. Millikan, the eminent physicist—recipient of the recently awarded Noble prize. while confessing his faith (The Christian Century, June 21, 1923) says:

> "Every one would agree that the stars that shine brightest in that history, as one's glance sweeps down from 1650 to 1920, are found in the names of Newton,

whose life centered about 1680; Faraday, living about 1830; Maxwell, 1870; Kelvin, 1890; and Raleigh, who died year before last. No more earnest seekers after truth, no intellects of more penetrating vision, can be found anywhere, at any time, than these, and yet **every one of them has been a devout and professed follower of religion."**

"It was Kelvin who first estimated the age of the earth at something like a hundred million years without seeing the least incompatibility, in spite of the first chapters of Genesis, between that scientific conclusion and his adherence to the church, of **which he was a lifelong member and a constant attendant.** Indeed, in 1887, when he was at the very height of his powers, he wrote: " 'I believe that the more thoroughly science is studied the further does it take us from anything comparable to atheism!" Again in 1903, toward the end of his life, he wrote: **" 'If you think strongly enough you will be forced by science to the belief in God, which is the foundation of all religion. You will find it not antagonistic, but helpful, to religion.....' "** Listen to the man whom the French nation has repeatedly voted the foremost of all Frenchmen, and who is also easily the peer of any biologist who has ever lived anywhere, Louis Pasteur, of whom his biographer says, **" 'Finally, let it be remembered that Pasteur was a deeply religious man.' "** Over his tomb in the Institute Pasteur are inscribed these words of his: **" 'Happy is he who carries a God within him, an ideal of beauty to which he is obedient—an ideal of art, an ideal of science, an ideal of the fatherland, an ideal of the virtues of the gospel.' "**

If, as one critic has suggested, a devoutly religious living scientist is an exception to the rule, the exceptions seem to be out-ruling the rule. One becomes readily convinced of this fact when the list is headed by such names as: Charles D. Walcott, president of the National Academy of Science, the American Association for the Advancement of Science, and head of the Smithsonian Institute of Washington; Dr. W. W. Keen, eminent surgeon; Henry Fairfield Osborn, director of American Museum of Natural History; Dr. C. G. Abbott, secretary of National Academy of Science, and an

eminent astronomer; T. C. Chamberlain, dean of American Geologists; James H. Breasted, archeologist; James R. Angell, psychologist; and president of Yale University; Michael Pupin, electrical expert; John C. Merriam, America's foremost paleontologist, president of Carnegie Institution of Washington; John M. Coulter, eminent botanist; Edwin G. Conklin, a Princeton biologist; A. A. and W. A. Noyes, eminent chemists, and many others mentioned throughout the present volume. In view of the testimonies of such eminent workers, many of whom have subjected the claims of both science and religion to a critical analysis for four score years, the evidence is overwhelmingly against the youthful student of nature who proclaims that the stream of life is flowing on and on solely in accordance with the laws of physics and chemistry. As Lord Kelvin truthfully says, "If you think strongly enough you will be forced by science to the belief in God." In speaking of this renowned scientist, Thompson said: **"It pained him to hear crudely atheistic views expressed by young men who had never known the deeper side of existence."**

The fact that hundreds of American students are unable to adopt the "faith of their fathers" to the teachings of science has prompted a desire to do my bit in pointing to the well trodden path which is being traveled by both the scientist and religionist—**a path which leads but to a common goal.** It is hoped that this volume will stimulate hundreds of young people of America to more extensive reading and consequently bring them to an earlier solution of these vital problems of life.

W. M. G.

Winfield, Kansas,
Sept., 1924.

INTRODUCTION

by

ALLYN K. FOSTER,
Student Secretary Northern Baptist
Board of Education.

The moment Evolution is mentioned it seems as though all the acrid and ugly emotions are released, and disputants shout simultaneously at each other through a red mist of suspicion and hatred. That certainly is not the best method of arriving at the truth. Disputants surely ought to be able to sit still long enough to understand their opponents' position, but no, "Evolutionists" come to the assizes scoring the ignorance, the narrowness, the intolerance, and the superstition of Anti-evolutionists, and "Anti-evolutionists" openly charge evolutionists with atheism, bestiality and lying. Immediately with this blast of brass there is in full swing a combination of Bartholomew and Donnybrook Fairs with an auto-da-fe as a side show if it were not against the law.

Meanwhile six hundred thousand students and many millions of other people are asking earnestly what it is all about. They cannot help feeling, from the clamor and the curses, that the life of religion is at stake, and they are asking avidly for the truth. In this volume of Professor Goldsmith's they are told with remarkable clearness, with disarming directness, and with a regard for religious values that I have rarely seen in a scientific book. This last-mentioned characteristic is explained by the fact that Professor Goldsmith is both a scientist and an interpreter, that is to say he knows the facts and what is vastly more important, he knows the **meaning** of the facts. Much of the harm done to religious faith is due to the irresponsible release of facts, like so many bull dogs, without that controlling leash that keeps them tied to all other facts. The jaw-bone of an ass in the hands of an irresponsible and somewhat irritated man will slay more Philistines than that same bone will, peacefully articulated to all the other bones and organs of that

peaceful animal. Specialism spoils perspective. Interpretation restores it. We have spent some sixty years furiously and feverishly taking our universe to pieces. The next great era of teaching will see it put together and running, and then men can talk in terms of the whole, as their forefathers were wont to do. Anti-evolutionists, and all mechanists are still tangled up in the wheels of the machine. There are so many interlocking parts, so bewildering a fabric of devices nicely adjusted, such astounding intelligence and creativeness at every turn, that to many the process of nature is all that is visible. It is the task of the true philosopher to show the vital union of process and personality, and from among the scientists themselves many have already come forward to show us nature "whole and in its total career." Professor Goldsmith is one of these, whose science has made for devoutness, who wonders and worships all the more for his knowledge of nature, and who is fixing the faith of hundreds of students on the firm realities of God in **human nature.** I devoutly wish that every reader of this book could see Professor Goldsmith at work on his own college campus. To him and men of his insight, the ways of God with the human spirit revealed in the Bible, and the ways of God in nature never collide. "The law of the spirit of life in Christ Jesus" and the laws of nature are but the methods of the creating and sustaining, the immanent, and the transcendent God.

Above everything else I want the readers of this book to know that **Professor Goldsmith's absorbing interest is in human beings.** I am sure he will forgive me for repeating what he recently said to me in his own home. It was a strangely tender look that came into his eyes as he said: "Really, my great passion is for the religious life of these students". He had to fight his way through a mass of science which no preacher nor professor could adequately interpret for him in order to reach the stalwart Christian faith he now holds, and he is eager to help others who are experiencing similar difficulties. He is one of many college

professors, I know, who are evangelists by interpretation, and many will rise up and call him blessed. I have asked President Kirk of Southwestern College for the privilege of inserting the following words which I had requested of him:

"Doctor William Goldsmith belongs to that group of teachers who alone can meet one of the greatest needs of our times, teachers who, going deeply into religion have an appreciation of its historical influence and a personal experience of its vital power, and who, going deeply into science, have a vision of its theistic implications and see God in all of the natural processes. To deal, on the one hand, with religion and to teach it in the spirit and by the methods of science, and, on the other hand, to deal with science and to teach it in the spirit and by the vision of religion is the need of the day. Professor Goldsmith meets this need.

"In his student days he himself went through the struggle of reconciling his religious views with his increasing scientific knowledge. He came out with religious convictions strengthened and religious faith purified. He is faithful and enthusiastic in religious work. For four years he has been a successful teacher of the Freshman's Sunday School Class in the College church combining in all his appeals the educational and evangelistic elements. Imbued with the spirit of science and a master of its method he has, with his ceaseless labor, gone far in that field, as his writings abundantly reveal.

"In this present volume is a most significant chapter presenting the results of a questionnaire submitted to his students and dealing with the question as to how their scientific studies had affected their religious faith and life. As far as I know this is the first effort scientifically to study that question. The results are reassuring to all in doubt about the religious influence of scientific studies upon our young people. It, at the same time, marks the author as one especially qualified to give aid to others beyond his own classes." (Albert Emmanuel Kirk, President of Southwestern College.)

JOHN WESLEY AN EVOLUTIONIST

"Were John Wesley alive today he would be considered a 'Modernist' regarding Evolution and the Bible. **Every member of the Methodist church ought to know that Wesley taught Evolution.** Professor Collier has pointed out that if Evolution be described as gradual, orderly, and progressive change, Wesley held to that. For his ministers John Wesley translated **The Contemplation of Nature, by Bonnet of Geneva, who coined the word 'evolution.' Wesley believed that creation moves from the simple to the complex. He taught that there were links joining mineral, plant, insect, reptile, fish, bird, quadruped, man.**"—Methodist Review, June, 1924.

Evolution or Christianity.

CHAPTER I

CLAIMS OF THE ANTI-EVOLUTIONISTS

"Evolution by no means takes God out of the Universe, but it greatly increases both the wonder, the mystery, and the marvelous order which we call 'Natural Law' pervading all Nature.....Nothing should be more clearly or more emphatically taught to our youth than that the Bible is the story of the **spiritual and moral progress of man.**"

Henry Fairfield Osborn, Curator American Museum of Natural History.

Introduction.

Was the noted Biologist Aristotle (384-322 B. C.) correct when he said that **God operates as a cause upon matter?** Is the eminent religious philosopher Borden P. Bowne correct when he declares that **natural laws are but God's customary ways of acting?** If so, a search for material truths should strengthen rather than weaken our spiritual nature. We should find among our religious men and women the most ardent seekers of scientific knowledge. They should represent the most eminent personages in the realms of scientific achievement, and facts of Nature should find the greatest champions in them. The scientific man should find God in Science, and the religious man should find Science in God. Both Science and Religion should become most ardent defenders of the Truth, the one the material, the other the spiritual. The Scientist should not hesitate to admit a Supreme Ruler of the Universe, while the Religionist should acknowledge whole-heartedly material truths which have been established. Until recently, many could see the dawn of the Utopian day when both Science and Religion would be the most devout champions of the truth. But it is now evident that the conflict has not vanished. The God of War seems to have been lurking

in the hearts of a few men during almost half a century of peace and to have made a desperate and unexpected attack during the early months of 1922, a psychological time to strike while human progress was halted by the World War.

The wave of resentment against the teaching of "Evolution" and "Darwinism" in the American Colleges is the logical culmination of the very active propaganda which is being carried on by a few ministers of various denominations under the eloquent leadership of certain outstanding personages. These propagandists are quite confident that the young people of the present generation, especially the college students, are being led into atheism by the "ungodly" teachings of the Biologists and other adherents of the evolutionary doctrine.

The Claims of the Anti-Evolutionists.

When the anti-evolutionists with an unlimited supply of "pathetic" oratory appeal to the masses to arm themselves against this unprecedented foe of modern Christianity and the evolutionists remain busily engaged in their scientific pursuits, we are not surprised to find the public being misled. Any devout churchman would be stirred with enmity against the teaching of evolution, if the following sweeping claims could be portrayed to him as realities:

> "It is evident that the evolutionary theory not only contradicts the Bible story of creation but, if true, deprives Christianity of every claim of being the true religion.
>
> "It also degrades the moral nature and faculties of man, and undermines the very foundations of moral and religious principle."
>
> Graebner, "Evolution," pp. 24, 27.
>
> "Evolution reduces the Savior to the stature of a man."
>
> William Jennings Bryan, Homiletic Review, June 1922.
>
> "Evolution seems to open the mind to the most impossible guesses advanced in the name of science, while it closes the heart to the plainest spiritual truths."
>
> Bryan, "The Bible and its Enemies," p. 26.

That's So and What Isn't About Evolut
Darwinist Theory Fades as Scientific Knowledge Increases
Monkey to Man!–Does Modern Science Hold It?
A Symposium on the Origin of Man in Which Students of Science
OKLAHOMA REFUTES DARWIN
BILL PROHIBITS SCIENCE THEORY IN ALL SCHOOL
Shall the TAXPAYERS Support DARWIN?
SIGNS of the TIMES
EVOLUTION IS NOT DANGEROUS
God or Gorilla
Down With Evolution!
HOMILETIC REVIEW
GOD AND EVOLUTION
I. Moses vs. Darwin
II. Darwin's Theory of Natural Selection
EVOLUTION IS FALSE OF FACT
Evolution—or McCann
EVOLUTION AT THE BAR
Revolution and the Bible
A Challenge
Laws of Life
College of Evolution
The Bible and Its Enemies

It will be noted from the map that the "Evolution and Religion" controversy is a live question and is being debated in almost every section of the country. During the past three years hundreds of newspapers and magazines have published articles on the subject. Note that one denominational journal portrays Darwin in a huge question mark.

"The Evolutionary hypothesis is contradicted by the facts of religion, of history, and of natural science." "Such a theory is dishonoring to man and offensive to God."

Graebner, "Evolution," p. 28.

"It (evolution) is violently opposed to the narrative and doctrines of the Bible and is destructive of all Christian Faith; **it originated in heathenism and ends in atheism."**

Patterson, "The Other Side of Evolution." p. 14.

".....Never has there been a doctrine so audaciously proclaimed in direct and defiant opposition to the truth of Creation, revealed in the Holy Scriptures. Therefore the theory of Evolution is pre-eminently suited to exemplify the Scripture, 'Hath not God made foolish the wisdom of this world?' (1 Cor. 1:20)" Philip Mauro, "Evolution at the Bar," p. 8.

"The Bible not only does not support Darwin's hypothesis but directly and expressly contradicts it."

Bryan, New York Times, Feb., 26, 1922.

"In its radical and most consistent form, it utterly discards belief in God."

Patterson, "The Other Side of Evolution," p. 8.

"Darwin does not give God a chance.....

"God has not been allowed to do anything for billions of years."

Bryan, "The Bible and its Enemies," pp. 31, 32.

"Every operation of God is ruled out, or deemed unnecessary."

Graebner, "Evolution," p. 12.

"Darwinism entirely changes one's view of life and undermines faith in the Bible."

Bryan, New York Times, Feb., 26, 1922.

"Darwinism chills the spiritual nature and quenches the fire of religious enthusiasm.....

"What can Darwinism ever do to compensate anyone for the destruction of faith in God, in His Word, in His Son, and of hope of immortality?.....

"Many have tried to harmonize Darwinism with the Bible, but these efforts, while honest and sometimes even agonizing, have not been successful.....

"Darwinism ends in self-destruction.....Darwin's doctrine is so brutal that it shocks the moral sense..... Darwin's doctrine leads logically to war.....

"Darwin's teachings drag industry down to the brute level and excite a savage struggle for selfish advantage..... As hope deferred maketh the heart sick, so the doctrine of Darwin benumbs altruistic effort by prolonging indefinitely the time needed for reforms.....Darwinism offers no reason for existence and presents no philosophy of life."

Bryan, "In His Image" pp. 113, 116, 126, 133, 134.

"There is not one fact in nature that supports the Darwinism hypothesis. All the facts of nature are against it."

Bryan, "The Bible and its Enemies," p 20.

"Their aim (the aim of the Evolutionist) has ever been to abolish God altogether, or at least (since a 'First Cause' is essential to the theory) to deprive Him of all personality and attributes, and to banish Him to the remotest confines of time and space. Much less are evolutionists concerned about **Christianity, except to antagonize its vital truths.** Evolution was put forth as an anti-Christian and infidel doctrine; and for fifty years it has supplied the platform from which, and the weapons with which, Christianity has been assailed."

Philip Mauro, "Evolution at the Bar," p. 58. 1922.

Although such dogmatic utterances as the above could be many times multiplied, these will suffice to show that the public is being bombarded with anti-evolution teachings. Since among these propagandists are a few men who have distinguished themselves in certain fields, **it is difficult to persuade their supporters to call a halt and investigate their logic.** It is the aim of this volume to invite the thinking men and women of the American Churches to pause for a moment and consider the position of the biologist whose life work is primarily in the field of evolution. Should the results of his life long investigations not be considered alongside the dogmatic statements of the anti-evolutionists whose training has been along entirely different lines? **This is the challenge of the Biologists to the Churchmen.**

The Making of College Infidels.

So convinced are the anti-evolutionists that the teaching of evolution in the American Colleges is driving the

young people into infidelity, that bills are being introduced into State Legislatures prohibiting such teachings, and College Professors are being asked to remain silent or resign their positions.

Certain united organizations of churchmen have passed resolutions against evolution because of its "evil" effect upon the Christian faith of the coming generation. The following extracts from the resolution passed by a Conference of Minnesota pastors representing Baptist, Congregational, Presbyterian and Lutheran Churches (Oct. 26, 1922) will suffice to illustrate the position of such anti-evolutionists:

> "**Preamble,** As American citizens we believe in the complete separation of church and state, and ARE OPPOSED TO RELIGIOUS TEACHING IN PUBLIC SCHOOLS—HIGHER OR LOWER (capitalized by the author).....
>
> "**Whereas,** The evolutionary hypothesis has come to be accepted by many American teachers, and is increasingly taught in the public schools of Minnesota, including high schools, our state normals, and state universities, and
>
> "**Whereas,** This hypothesis, after sixty-three years of study, **remains wholly unproven,** and has increasingly shown itself to be **a foe to the Christian faith, denying as it does the veracity of the Scriptures,**
>
> "Therefore be it resolved, that we, citizens of Minnesota, representing thousands of our fellow citizens, hereby utter our protest against this **propoganda of infidelity,** palmed off in the name of science, and we call upon the trustees of state institutions to demand of teachers a cessation of such teaching and the removal from our schools of such text-books as favorably present the same....."

The author challenges the anti-evolutionist to present records of the official actions of any group of evolutionists which are as antagonistic to the Christian religion as are the above resolutions. The situation is indeed paradoxical —the author and his colleagues who are strong advocates of religious teachings in the public schools, being evolutionists are branded as atheists by many of the fundamentalists who wish to eliminate the Bible from the daily school life of the young people of America.

As was suggested many states are being swept with the wave of resentment against the teaching of evolution. The quotations in the earlier part of this chapter suffice to show the dogmatic stand which thousands of citizens are taking. The author will attempt in the following pages to show that evolution is the foundation stone of modern Biology, and thus, to eliminate the teaching of evolution together with allied principles would mean the staying of the hand of progress in such practical fields as Genetics, including animal and plant improvement, Eugenics, and Heredity in general. Furthermore it is claimed in the present volume that **evolution when rightly taught not only does not condemn the Bible and the Church, but is a great factor in strengthening the Christian Faith.**

Emphasis is placed upon the fact that religion is not endangered by scientific discoveries. In fact **the man who fears for his religious beliefs offers all too effective testimony that his beliefs are unsound.** No one appreciates the old bridge which must carry a sign at either end, "Danger" —"Drive slowly over this bridge". In regard to science, particularly, it is one of the strangest things in the world that any Christian man should be afraid of this. Science is knowledge, and knowledge is of the truth. In its very nature it is near kin to religion, and one of its most faithful allies. Consider the marvelous inventions of science, the printing press, the telegraph, the mariner's compass, for example. All these are for religion and not against it. Of course, by their abuse they may be used against religion, but this is recognized as abnormal. There is nothing essentially hostile to religion in the world that God has made. The fruits and the herbs, the trees and the rocks and the minerals, and all the forces of nature, have been made with benevolent intent. They are good for man; for his sustenance, his health, his morals and his spiritual life. When used as designed by the Creator, they will minister to the good of man."

CHAPTER II

"IN BIOLOGY ALL ROADS LEAD TO EVOLUTION"—CONKLIN, '20

"Let us proclaim in precise and unmistakable language that our faith in Evolution is unshaken. Every available line of argument converges on this inevitable conclusion."—BATESON.

It is rather startling to find certain eminent religious leaders voicing a strong sentiment against the teaching of evolution when they themselves little realize the scope of that subject. Many well-meaning churchmen are requesting "the removal from our schools of all textbooks which favorably present" evolution, when they know not what thek ask. They claim that Professor Conklin, that eminent Princeton Biologist, was exaggerating when he said that **"In Biology all roads lead to evolution"**; and that Ellwood was over enthusiastic or probably "atheistic" when he said in the excellent text **"Sociology and Modern Social Problems"**, that "The thought of evolution now dominates ALL science—physical, biological, physiological and **sociological"**; and that Dr. Wm. S. Sadler of the Post Graduate Medical School of Chicago was a dreamer when he wrote into that excellent little book "Race Decadence" the following: "The hour has come when the **facts of organic evolution and the biologic teachings** of modern eugenics should be applied to the great problems of the national administration as related to immigration, labor and capital, sanitation, social reforms, the colored race problem, poverty, and the other great questions of national uplift and race betterment."

To remove **all** books and professors who favor Evolution and its allied principles from the American Colleges as the "Fundamentalists" wish, would mean the elimination of a large percent of all libraries, and the discharge of practically all college staffs—thus with few exceptions the closure of all the institutions of higher learning. This statement applies with even greater force to the various indust-

rial schools in which emphasis is placed upon the technicalities of animal and plant improvement. **The mere classification of any animal or plant is an expression of evolutionary facts.** The Horticulturist, the Animal Breeder and even the farmer who improves his plants and animals by systematic methods are, either consciously or subconsciously aiding in the process of evolution. It might also be said without fear of contradiction from authoritative men of science that even the anti-evolutionists who aid in the execution of efficient marriage laws or who furnish their children with favorable environment are dealing with vital factors in the **evolution** of the human race. **They are thus subconsciously practicing and promoting the very thing they are condemning.**

The author contends, therefore, that if those who antagonize evolution in the name of religion would actually investigate in detail the content of the course offered in the colleges and really understand what is implied when the term "Evolution" is used, they would refrain from making further attacks.

Oklahoma, Texas and Florida Down Darwin.

The fact that the Oklahoma House of Representatives (Feb. 21, 1923) **passed,** overwhelmingly (87 to 2), the state free textbook bill with an amendment prohibiting the teaching of "the Darwinian theory" would further indicate that there are serious objections to the teachings of Charles Darwin. While the bill was under discussion in the House, one member excitedly pounded his desk and, roared the following crude "defense of the Oklahoma Churchmen," "I promised my people at home that if I had a chance to down this here Hellish Darwin I would do it." Without demanding an explanation of **"this here Hellish" Darwinism,** the bill passed almost unanimously.

In like manner the Lone Star State has many enthusiastic opponents to this **"damnable doctrine".** "The Reverend Frank Norris, an 'independent' Baptist minister

of Dallas, had, not long ago, returned to this State after a trip North, in which he had interviews with various notables. It must also be explained that the legislature is now considering a bill to prohibit the teaching of evolution in the State-supported schools. So an invitation was issued by the House of Representatives to the Reverend Mr. Norris to appear before them and speak upon the subject. Mr. Norris, in an absorbing and impassioned address, demonstrated that **the belief in evolution hails from Germany and is responsible for the crime wave, the increase in the number of divorces, and Bolshevism, and that it is** 'THE MOST DAMNABLE DOCTRINE THAT HAS COME OUT OF THE BOTTOMLESS PIT.' As I write, the news is brought in that the anti-evolution bill defended by Norris has PASSED the second—the decisive—reading in the House, BY A VOTE OF 66 to 34." (The Nation, March 21, 1923).

"The legislature of Florida, at its last session, **adopted by unanimous vote** a joint resolution declaring it contrary to public welfare for teachers paid by taxation to teach as a fact any hypothesis that links man in blood relationship with any lower form of life."—(Seven Questions in Dispute—Bryan, 1924)

Darwin's Theory Is Largely Correct but not Complete.

In order to make clear the Darwinian principles as taught by this master English (not German as Norris implies) Biologist, it would be necessary to review the historical background of Biological thought before 1859 (Origin of Species) and then to enter upon an exhaustive consideration of the various fields of Biology investigated by Darwin, his predecessors, and his colleagues. Since this is impossible in a brief publication of this nature, only the cardinal points will be considered. Unquestionably the most substantial base of Darwin's work was the theory of **"Natural Selection** or the preservation of favored races in the struggle for life" which was offered as an explanation of existing species, this transformation being made through

descent, by gradual modification of the earlier forms. The method by which this modification takes place is clearly stated by Darwin himself: "As many more individuals of each species are born than can possibly **survive** (1, overproduction), consequently, there is frequently recurring **struggle for existence** (2, struggle for existence) it follows that any being, if it **vary** (3, individual variation) however slightly in any manner profitable to itself, under the complex and sometimes **varying conditions of life** (4, environmental condition) will have a better chance of **surviving,** (5, survival of the fittest) and thus be **naturally selected** (6, natural selection). From the strong principle of **inheritance** (7, inheritance) any selected variety will tend to propagate its new and modified form (8, adaptation)."

It will be noted that in Darwin's brief statement eight fundamental propositions are coherently advanced.

1. Overproduction.

Nature has ordained that more individuals shall be produced than can survive. For example, if every seed of a single dandelion plant and the progeny of these should produce for only four years there would be a sufficient number of plants (allowing one square foot for each) to cover a land area 245 times the size of the United States. From the middle of April to the tenth of September the progeny of one pair of flies (assuming no deaths and the maturation of all eggs) would number over five trillion—a sufficient number to belt the earth about 880 times. "Even slow-breeding man," says Darwin, "has doubled in twenty-five years. At this rate in less than a thousand years there literally would be no standing room for his progeny."

2. Struggle for Existence.

Since many more individuals are produced than can possibly survive, it is obvious that great competition will arise between them. This struggle for existence is literally a battle against surrounding conditions and is effective both

in the plant and animal world. A plant may become crowded or overshadowed, a rabbit captured by an enemy, a fawn struck down by an eagle, or even a child might perish because of improper care.

3. Individual Variation.

Without minimizing the Laws of Inheritance we can safely agree with Darwin that variation is a common thing. Someone has said that in Nature, **"There is nothing constant, except constant change."** In recent years much has been learned with reference to the causes of variation. (See page 69.)

4. Changed Environmental Condition.

A discussion of the effect of changed environmental condition may be found, in various treatises on Biology, Evolution, or Sociology. The change of climatic conditions, and the shifting of land and water bodies accounts for the **Geological Distribution** of the various forms of life—present as well as past. Those desirous of pursuing a thorough study of Darwinism in its relation to present biological thought should read more extensive treatises.

5. Survival of the Fittest.

It is obvious that in the great "Struggle for Existence" the plant or animal best adapted to meet the vicissitudes of life will survive. Although there might be some misunderstanding of the term "fit". one might rightly conclude that the weaklings will perish unless protected by artificial means. Herein probably lies the cause of the comparatively slow evolutionary progress of the human race since the dawn of civilization. So long as the battle was in the wild the weaklings perished, but under the present social regime the strong has little advantage over the weak; in fact the unfit are now producing much faster than the "fit". The Science of Eugenics teaches us that we should accept our responsibility as co-worker with the Designer of the Laws

of Life and limit the production of this inferior human stock.

In defence of Darwin, it should be emphasized that he never claimed that in **every instance** the **fitter** survive and the weaker **perish**, but he did maintain, as is proven by investigation today, that there are differential factors in favor of the **"fit"** as compared with the **"unfit"**.

6. Natural Selection.

As was suggested above, nature possesses a great selective power. This natural selection, though not creating the materials of evolution, constitutes the sieve by which the "fit" are preserved. **Many of the most extreme opponents of Darwin's teachings are practicing the selection principle laid down by him.** For instance, no one doubts that better milk producers may be obtained from highly selected cows than from scrub range stock.

7. Inheritance.

Although Darwin was little mindful of the rigorous Laws of Inheritance which were being executed all about him, he and many earlier workers should be credited with many accurate observations in the field of Heredity. The rudimentary knowledge of the earlier workers has been, since the epoch-making discoveries of 1900, supplemented with discovery after discovery until now extensive laws of inheritance are at man's disposal. As more and more knowledge is accumulated the fact is more firmly established that the characteristics of the parents are handed on to the off-spring in conformity with definite (Mendelian) laws without modifications. This has led the anti-evolutionist with his limited scientific knowledge to conclude that the Mendelian Laws of Inheritance strongly support the theory that God created each and every species of plant and animal life at one time and has not permitted a change from the original creations. Although the fallacy of this conclusion is discussed more in detail in Chapter VII, attention

should here be called to the fact that **man himself has a hand in bringing about evolutionary changes.**

Changes in Animals and Plants Under the Comparatively Brief Influence of Man

"Darwin was influenced by the well-known fact that many domesticated animals and cultivated plants have changed greatly under the influence of man. The race horse and the dahlia, the pig and the plum, are no longer what they were a few centuries ago. Man has chosen what he wanted from among the variations afforded by Nature, and has preserved and propagated many beautiful and useful types. He has, when the fancy took him, developed the grotesque or even hideous, and has saved among dogs and goldfish what Nature would surely have rejected. Some of the domesticated and cultivated varieties are so distinct that **did we not know their origin, they might pass for new species, if not new genera.** If man's selections, combined no doubt with more or less crossing in most groups, could produce such marked results within a short time, **what might Nature do in millions of years?** In later years, Professor De Vries of Holland has called attention to the phenomena of **mutation,** whereby a species of plant, such as Lamarck's evening primrose, may give rise to a series of distinct types which will breed true. **We do not call these** SPECIES, **because we know their origin, yet some of them are as distinct as admitted species, and if found isolated would be regarded as such."** (Cockerell).

8. Adaptation.

The last factor of organic evolution mentioned in Darwin's brief statement is adaptation. It is obvious that the plant or animal (including man) which is best adapted to the changed environmental conditions will survive. This principle holds with any type of variation whether it be caused by a (I) recombination **of various hereditary traits or by (II) mutation.**

The Broad Range of "Evolution" Courses.

It should be evident even to the most radical anti-evolutionist that evolutionary teachings are linked up with various subjects—subjects which indeed are the basis for plant, animal, and human improvement. This situation makes it impossible to discontinue the teaching of evolution without an entire revision of human knowledge.

In order that those who have long since severed their connections with their Alma Mater, may have an idea of the content of so-called "evolution" courses as they are actually being presented today (not twenty years ago when our fathers were in school) the author indiscriminately picked catalogues from a score of western colleges and is pleased to present herewith extracts relating to those courses.

Typical "Evolution" Courses in Western Colleges.

10. **Heredity and Evolution. A lecture** course which deals with the **modern problems of biology** in so far as they relate to theories of **organic evolution and heredity. Eugenics is emphasized in the latter part of the course.** Kansas Wesleyan Univ., Salina, Kansas. 1921.

4. **Genetics.** The fact of evolution will be discussed. **The** theories of La Marck, Darwin, Weismann, and De Vries will be explained. **Heredity will then be taken up.** Its cytological basis, Mendel's law, and its **relationship to sex, morals, disease and society will be investigated.** The course will close with a **discussion of degeneracy and eugenics**.....Montana Wesleyan College, 1920.

12. **Genetics. The principles underlying heredity and evolution;** the theories as historically advanced; and the present conception of the **mechanism of hereditary transmission**.....College of Emporia, 1921.

30. **Genetics and Experimental Evolution.** The course uses as far as possible both plant and animal forms to illustrate the principles of Genetics and the problems of **Experimental Evolution.** The course provides opportunity for practical work and training in the use of modern genetic operations and an introduction to research.....Dr. Bellamy, Univ., of Chicago, 1920.

352. **Evolution and Eugenics.** A lecture course dealing with the various ideas concerning the origin, development, and relation

of organisms, with emphasis on human welfare.....N. Fasten, Oregon Agri. College, 1921.

217. **Evolution and Heredity.** This is a lecture and reading course dealing with the development of the idea of evolution; the evidence and the principal theories of the cause; problems of variation, heredity and experimental evolution. Prof. Nabours, Kansas State Agr. College, 1920.

221. **Biological Factors in Social Evolution.** A course on the biological basis of sociology. Among the topics treated will be the relation of organic to social evolution with special attention to heredity, selection, adaptation, and variation; the beginnings of social evolution in the animal world, and the instinctive, emotional and intellectual basis of association. Mr. Ellwood. Univ., of Missouri, 1921.

Zoology 104a. **Evolution:** The evidences and factors of evolution; its varied relations to mankind; problems of heredity, variation, and development; the aims, methods, and results of experimental evolution. Prof. Breitenbecher. University of Oklahoma, 1920.

9. **Organic Evolution.** The facts and theories of evolution and genetics; including variation, natural and artificial selection, heredity and inheritance, etc. Mr. Spaulding, Univ., of Montana, 1920.

CD 5-6. **Evolution and Heredity.** Discussion of the theories of evolution. The facts of heredity, Mendelian inheritance and the bearing of heredity on social problems. Tulane University of Louisiana, 1921.

4. **Genetics and Evolution.** Elective for college students. Prerequisite, some biological study either in high school or in college. Central Wesleyan College, Warrentown, Mo., 1920.

Course V. **Course of Lectures on Evolution.** Importance of the subject toward a correct viewpoint of modern scientific tendencies. The problem of the origin of species. Evidence for the fact of organic descent. Survey of the various theories concerning the factors of evolution. Application of the theory to man. St. Johns Univ., Collegeville, Minn., 1920.

Evolution and Heredity. An elementary study of the development of the evolution hypothesis and the evidence upon which it is based; the theories of evolutionary factors and of heredity, especially Mendelism; modern work and viewpoint. University of North Dakota, 1920.

Organic Evolution. A study of the facts and theories that have led up to our present day knowledge of evolution. Variation, Mendelism, the germ cells, and the origin of species and of the individual are the basis for the discussion of methods and principles. **Genetics in relation to human welfare is an integral part of the course.** Mr. O'Roke, South Dakota, State College of Agriculture and Mechanical Arts, 1921.

2. **Educational Biology (Bionomics). A study of the fundamental facts and laws of biology that have a bearing on education.** Forms a basis for the intelligent study of other educational subjects. Considers: Mendel's law, heredity, eugenics; and evolution; variation—its causes and meaning; environmental effects; and civic biology. Dr. Johnson, Mr. Walker, Colorado State Normal School, 1921.

Practically all colleges which do not teach Evolution, Genetics and Eugenics as a combined course offer courses in Evolution which are followed by Genetics and related subjects. The following taken from the 1921 catalog of Whiteman College, Walla Walla, Washington, is typical of this group of institutions:

20. **Evolution.** A study of variation and the factors in organic evolution. Reading, discussions and reports. Open to Juniors and Seniors. Three hours, first term.

21. **Heredity and Environment.** A study of recent investigations in the field of heredity with special reference to human development and social improvement. Reading, discussions and reports. Open to Juniors and Seniors. Three hours, second term.

22. **Biology and Present Day Problems.** A discussion of the biological aspect of social problems. Reading, discussions and reports. Open to Juniors and Seniors. Three hours, third term.

Since the above courses are typical of the teaching in many departments, (directly or in an incidental way) of practically every **Standard** College in America, the effect of the elimination of the supporters of such practical teachings would be extremely serious. Would it not be a serious matter to stay the scientific hand of plant, animal and human improvement? A critical study of the teachings of the American Biologists should convince the most radical

anti-evolutionist that at every meal he enjoys the products of evolution. **His very life is sustained by that which he seeks to poison.**

The courses themselves clearly show that **"Evolution" has to do with the progressive changes which are taking place in the entire organic world.** In a still broader sense **evolution is the process through which the present and future complex conditions of the universe has developed and will develop from the simpler pre-existing conditions.**

Since genetics and eugenics are parts of the great evolutionary processes of life, elimination of the whole, namely evolution, would obviously **eliminate the constituent parts** —genetics, eugenics, euthenics, ethics, sociology, etc. Perchance the "Fundamentalist" will contend that their weapons are aimed only at "Evolution" and not at Genetics, Eugenics, Euthenics, Sociology, Ethics, etc. If this be their position, they should first instruct the various departments of the American Colleges how it would be possible to teach these vital subjects without making some reference to their substantial base—**Evolution.** Ellwood (Sociology and Modern Social Problems) was evidently correct when he said, **"the thought of evolution now dominates ALL sciences—physical, biological, physiological and SOCIOLOGICAL."**

"It is only those who are ignorant both of the origin and nature of the Bible and of the facts in our universe who are terrified lest science should make them lose their faith."

—Shailer Mathews.

CHAPTER III

EVOLUTION STRENGTHENS CHRISTIAN FAITH

A fire mist and a planet,
A crystal and a cell,
A jellyfish and a saurian,
And caves where the cavemen dwell—
Then a sense of law and beauty,
And a face turned from the clod;
Some call it EVOLUTION,
Others call it GOD.

—William Herbert Carruth.

During the unprecedented storm of opposition to the teaching of evolution, the biologists have continued their scientific work unabated. It is theirs to present the scientific principle of progressive development as related to plant, animal and human improvement. They therefore seldom have the time nor inclination to investigate the effect of their teaching upon the Christian faith of their students. However, it nevertheless remains true that the gradual revelation of any great system of learning as evolution will react either positively or negatively upon the religious outlook of the student. Too often the younger students who possess only a superficial knowledge of evolution together with an unlimited supply of preconceived ideas go adrift, especially if the teacher himself has not delved deeply into the secrets of Nature. However, comparatively few of the more systematic students of Nature fail to appreciate the workings of an Unseen Hand. In view of the radical claims of the anti-evolutionists presented in the first chapter, the reader is invited to note the religious convictions of those dominated by the evolutionary doctrine. They seem to have a firmer grasp upon the vital things of life than those who depend entirely upon faith. Revelations of nature aid them in grasping the reality of a Creator.

In a brief review (Science, Dec. 21, 1923) of the life

of John Thomas Gulick who recently died in his home in Honolulu at the age of ninety years, David Starr Jordan said: "He has been widely and very favorably known as a student of the land snails of Hawaii, and of the lessons in evolution to be derived from their nature and distribution. . . . . As he recorded the multitude of forms, the conviction grew with him that the relation of these geminate species of shells **'was a marvelous self-revelation from the hand of the Creator himself,** and that if we could but learn the alphabet we might read from them the story of His method of Creation'. . . . . It is worth noting in these days of conflicts between knowledge and prejudice that **Dr. Gulick was a thoroughgoing Darwinian, as well as a Christian Missionary. His scientific studies were to him a reverent duty, a study of the actual ways of the Creator in His actual handiwork."**

Regardless of the claims of the anti-evolutionists to the contrary, this vitalizing influence of evolution is having a favorable effect upon the Christian lives of the college students. It teaches them to use their own eyes in making a close search for God, instead of looking for Him through the clouded and poorly matched field glasses of their parental creeds. Since the author's present claim that evolution strengthens Christian faith is so diverse from the teachings of the anti-evolutionists it seems wise to permit the students themselves to speak upon the subject.

Data Relating to the Effect of the Teaching of Evolution on the Christian Faith of the College Student.

On January 16, 1923, during the absence of the regular instructor, Miss Beryl Freeman, assistant in the Department of Biology of Southwestern College, placed the following questionnaire before the students in a Biology class in which the author had given a series of lectures upon the subject of evolution. The questionnaire read as follows:

What effect has the teaching of evolution in this class

and reading of "The Laws of Life"* had upon your Christian faith?

I. Weakened .....IV. Comment (optional) .....
II. No Effect .....V. Signature (optional) .....
III. Strengthened .....

The eighty-eight reports which were made showed the following record: Weakened, 2; no effect, 20; strengthened, 66.

A surprisingly large number of students gave comments upon their answer. However, it is regrettable that the two who answered that a knowledge of evolution had weakened their faith gave no comment, while comparatively few who answered, **"no effect"**, gave reasons for their answer. This data, together with the comments of the students themselves, will serve as a stumbling block to those who contend that **evolution "originated in heathenism and ends in atheism."** Since the students were not asked to sign their statements and no pressure brought to bear upon them in their answer, the questionnaire being given by an outsider in the absence of the instructor, this report should throw much weight upon the problem at issue. The following are extracts from the students comment:

I. Weakened.

Two students answered that a knowledge of evolution weakened their faith in Christianity **but gave no comment.**

II. No Effect.

Twenty students, or 23 per cent of the class, answered "No Effect". Although these students viewed evolution only from the Scientific angle, none of their statements are antagonistic.

1. "I think that the teaching of evolution in this school and the reading the 'The Laws of Life' have not

* "The Laws of Life—A Popular Presentation of Evolution, Heredity and Eugenics" by William M. Goldsmith, published by Richard G. Badger, Boston.

effected my Christian faith in the least. A person can believe in evolution and still believe in the Bible."

2. "I understand evolution better than I ever have before. I am a positive believer in evolution and have always been, but I understand it much better now. It never did contradict my Christian faith."

3. "It has enlarged many of my views and caused me to think more seriously but has not really effected my faith."

4. "I could not say that studying evolution did not have any effect upon my beliefs about certain things in Christianity—but it caused me to really think and study about matters I had only taken for granted—with no foundation for my thoughts. Although I am still puzzled or uncertain about many things, I do not think it is due to evolution."

5. "The teaching of Biology in this course has neither weakened nor strengthened my Christian faith. It has enlarged and broadened some of my views and ideas."

6. "It has given me a different outlook but it has had nothing to do with my Christian faith."

7. "I have in this study so far found out many things which I have thought about. I believe I have been somewhat helped."

III. Strengthened.

Sixty-five students, or 75 per cent of the Class claimed that a knowledge of evolution strengthened their faith in Christianity. Forty-one students commented upon this subject. The following are typical discussions.

1. "The teaching of evolution and reading 'The Laws of Life' have strengthened my Christian faith. For I knew there was something that controlled evolution and that God had some method of working. **Why should I doubt His divinity because I discovered His method of working?"**

2. "Not before have I perceived the real meaning of God and of man and their relation."

3. "It has removed **all** doubts of a Creator and Ruler of the universe and of the Christian's faith."

4. "Strengthened, because there were so many things in my life that I was in doubt about until I could see the connection between God and the steps of Evolution."

5. "The teaching of evolution in this class and the reading of 'The Laws of Life' have **strengthened** my Christian faith. Because it has shown me that the Bible

is not to be considered as the Historical basis of truth but **a guide to our moral and spiritual life."**

6. "Strengthened, because it has unfolded God's handiwork and masterpieces and has **cleared a few conflicting ideas of youth."**

7. "It has made Chrsitianity seem more real and nearer to me."

8. "The study of the wonderful way in which everything has been worked out has made me understand really that it must be a **powerful and good** God to have planned the world in the way it has been."

9. "This reading material and the teaching of evolution has greatly increased my faith in the Christian religion. **It has verified the Bible** where I could not understand it before and has given me a greater insight."

10. "**Christianity** has been illuminated and **made more clear** to me by the study of evolution and its relation to God."

11. "It has cleared up many things for me, made me more optimistic, and has helped me very much."

12. "I think I have a **clearer and better idea of the Bible** and things relative to Christian life."

13. "Evolution is progress. **Christianity is progress or it is not Christianity.** Therefore a rational study of evolution, omitting petty prejudices, is bound to strengthen one's faith, to produce a broader Christianity. Christ says, 'I am the way of Life.' **Evolution is the study of life.** It adds to His assertion. In becoming acquainted with life, we become better acquainted with the Creator of that life."

14. "The lectures I have heard on evolution and the reading of 'The Laws of Life' have made many things clear to me. I have always been **taught the wrong idea about evolution** and altho I believed in it to some extent I could not quite see the connection between evolution and religion."

15. "It has made me see that **evolution and religion go hand in hand."**

16. "Strengthened, at least it has helped me to solve more nearly to my own satisfaction, questions which have bothered me for years."

17. "The teaching of evolution as taught in this class has been strengthening to my Christian faith, and as a personal test 'The Laws of Life' has cleared up many puzzling things concerning the relationship of man and animal life and **given me a broader view of life."**

18. "Strengthened because of the connection between evolutionary development of man being made clear in its connection with the account in the Bible."

19. "The class work and 'The Laws of Life' have enabled me to understand more clearly that science and religion work hand in hand. **Before this I always thought that science opposed religion.**"

20. "Strengthened, in that it has given me a broader basis for study and that it helps me to **understand more of the every day problems** which confront man each day."

21. "It has helped me to understand things in the Bible and things I have heard speakers say which I otherwise would not have understood."

22. "Perhaps the belief that evolution is such a great part in our lives would make some disbelieve in a Divine Power, but **it causes me to see how really great and powerful this Divine Being is.**"

23. "The study of 'The Laws of Life' and the teaching of evolution in this class has given me a **broader view of God, a more wonderful idea of his power and ways.** I have tried to influence all my friends, both in college and out, to take at least the beginning courses in Biology to be able to understand the teaching of evolution."

24. "Strengthened—One has to be broad-minded and see both sides in order to choose. If one is too radical it is bound to weaken his faith. The course makes one **think, even about his future life.**"

25. "Only a smattering of any subject of this kind would no doubt weaken a person, but a close analytical study gives facts which leaves no doubt as to **God's position in relation to the cosmos.** God is still infinite in the last analysis. It does remove, however, old dogmatic conceptions that tend to cramp our existence and leave us in doubt as to the reliability of the old teachings."

26. "The first thing it did for me was to, well shall I say make me rather 'peeved' to think that some man would stand up before a class and teach, what then seemed absolutely contrary to my Christian belief. But as I studied and listened to all discussions and lectures, I began to wonder, and with wonder came a desire to know (and that has not yet been satisfied), I believe that it has strengthened my faith."

27. **"Through my studying in Biology I am clear in my faith in God."**

28. "The teaching of evolution in this course has strengthened my Christian faith but I happen to have a father who taught me as I have been taught in this Biology class."

29. "Evolution has strengthened my faith in Christianity. After all why should God put animals and plants here on earth ages ago and expect them to be now exactly as they were then? Evolution is merely a workable theory of development, in fact about the only one ever found to be acceptable. Why should evolution mean that God is

not as powerful as we believe? **Would it not rather tend to make us believe in a still more powerful Supreme Being,**—one that could develop into a final perfection the plants and animals?

30. "I believed strongly before but the study in this class has opened the way to new confirmation of the logical truth of evolution."

31. "I always rather believed and hoped that there was no conflict between the two and now I am sure there is none."

32. "The course is powerful enough that it must strengthen one's Christian faith—if he is broad-minded enough to look at both sides of the question."

33. "The teaching of evolution has not weakened my Christian faith, but it has strengthened a conviction for **right living** and impressed me with the **responsibility of life.** It has caused a stronger feeling of reverence.

34. "It strengthened my faith in Christianity because it showed me the power that God has; and **how his laws always work out.**

35. "The study of evolution has **made God seem more real and plausible to me.** Evolution offers a solution which is plausible and at the same time does not disregard the existence of a Divine Being."

36. "It has led me to a clearer understanding and **more vital interest in Religion.**

A Freshman's Conception of Evolution.

The following is the answer which a Freshman, who had completed only eight weeks' work in Biology gave to the question, "What scientific facts have you learned during the past three weeks that would aid in the solution of the present evolution vs. religion controversy?"

"I have not gathered so much the scientific facts which would be an aid in such a controversy, as I have the consciousness of the reasonableness, the truth, the consistency, of a view that there is no conflict, literally speaking. **What conflict there is, is in a large part, a growth out of ignorance of the evolutionary field.** The fact that I have heard no one argue against evolution, who had made a thorough study of it, is proof of its rationality. When rocks containing facts and bare truths are brought before us, when we consider that these rocks themselves are composed of animals

and plants long since gone out of existence, I am compelled by force of reason and truth to accept the evolution side of the argument. The finding of fossil remains of pre-existing animals is conclusive proof that early forms existed in primitive beginnings. The fact that there is such diversity of human beings today leads one to believe in the evolution of the human race. The fact that every activity has evoluted, whether it be music, literature, modes of combat, recreation or sport, business or religion, is suggestive of the thought that man once was an animal in which these activities, these emotions, these reasonings, could not take place. The fact that man's bones which are as enduring as animals are not found among the fossils of earlier periods, is absolutely convincing. **Finally the conviction that the human race can be bettered, can be led higher** through the study of eugenics and the application of the study, compels me to believe in evolution, **otherwise the bettering of human conditions would be a mere Utopia.** While I believe in God's power to do anything he sees fit, yet I believe he had a purpose in the beginning, that that purpose runs through all ages and has not yet been realized, yet I believe that in order to realize it, He used and is using the process of progression. He is progress. Evolution is progress. It therefore fits in with His plan. **In truth, it is His plan for the realizing of His purpose. Because I believe man can evolute into a being better than he is at present, when he will be more like his Creator, more capable of sensing His powers, I believe in evolution and can sincerely say I believe more passionately in religion because of this evolutionary Faith."**

In face of such seemingly inspired testimonies as these, coming from the very heart of our splendid American student body, the author, though a Biologist, cannot refrain from challenging the anti-evolution propagandists to present as convincing evidence against evolution. **Who is better prepared to testify as to the effect of evolution on the Christian faith of the college student than the student himself?**

CHAPTER IV

SARCASM, RIDICULE AND MISINTERPRETATIONS SUPPLANT LOGICAL REASONING

"There is more science in the twenty-fourth verse of the first chapter of Genesis than in all that Darwin wrote."

—Bryan, "In His Image", p. 94.

"If we use the Bible as a scientific authority, we misuse the Bible. We use it aright when we use its stories of spiritual disaster and spiritual achievement as warning, instruction, and inspiration for our lives."

—Lyman Abbott, '22.

The Honorable William Jennings Bryan is fully confident that "the paramount need of the world today, as it was 1900 years ago, is a whole-hearted, whole-souled, whole-minded faith in the Living God," and that "it follows logically that anything that weakens belief in God weakens man, and to the extent that it impairs belief in God, reduces his power to measure up to his opportunities and responsibilities" (In His Image, p. 87). The author agrees that "if there is at work in the world today anything that tends" to weaken this belief "it is the duty of the moral, as well as the Christian world to combat this influence in every possible way". However, **who is to judge whether this doctrine or that is an asset or a detriment to the cause of Christianity?** Such a query is permissible especially when it is presumed that certain scientific teachings are contradictory to the Bible. It must be remembered that even though Mr. Bryan and a few other talented leaders of the anti-evolutionistic movement are well versed in certain lines, their scientific training along the line of modern evolutionary principles is sadly lacking. Not being able to perceive the full significance of the numerous revelations of science they conclude prematurely that the Word of God is being supplanted by scientific explanation. **They are**

simply blinded by the dazzling rays of scientific technicalities. Thus we see the blind leading the blind against the "menace to fundamental morality". It is unjustly claimed that this "enemy", namely, Darwinism, "is obscuring God and weakening all the virtues that rest upon the religious tie between God and man".

It is pitiful that the most popular anti-evolution document bearing the title "In His Image" should be presented to the world as "A Challenge to Darwinism", when "Darwinism" is nowhere in the volume explained in terms of present day science. This situation is indeed characteristic of the many speakers and writers opposing evolution. Having heard that the sum total of the teachings of the evolutionist is to the effect that "man came from monkey" they arbitrarily brand all teachers of evolution as monkeys, pseudo-scientists and infidels. Without investigating they proceed to sling sarcasm and ridicule at the evolutionists. The author questions if the sturdy Kansas evangelist while discussing a former publication of the writer created an increased respect for his church or strengthened the faith of the College students who heard him when he threw the following bit of crude dramatics at his intelligent audience (Nov. 1922). "Any man who goes into the jungles to hunt for his ancestry among dirty apes, lousy monkeys, long-armed baboons, chattering chimpanzees, or rusty-tailed opossums, is making an ass out of what God intended for man."

No less eminent a man than Mr. Bryan himself oft-times substitutes ridicule and sarcasm for sound logical reasoning. In truth, we find that he recommends this method of reply when the subject of evolution is under consideration. He says (In His Image, p. 100) "In order that you may be prepared to **ridicule** these **pseudo-scientists** who come to you with **guesses** instead of facts, let me give you three recent bits of evolutionary lore". The "lore" of which Mr. Bryan speaks was taken from a Philadelphia newspaper and the Sunday School Times and palmed off upon the

reader as a part of the "decalogue" of evolution. This and other "Bryanisms" are herewith presented in the form of Articles of Evolutionary Faith, as Mr. Bryan would have his readers believe of the evolutionists. Each article carries with it sufficient material quoted verbatim from Mr. Bryan's works to justify the author in formulating the decalogue. This somewhat strange method not only magnifies the ridiculousness of Mr. Bryan's **"Challenge to Darwinism"**, but reveals the facts that Bryan evades the fundamental issues. Instead of setting forth the real claims of the evolutionists and their evidences for the facts of evolution, Bryan discusses in a sarcastic manner certain absurd statements which the reader concludes are being taught in the colleges. It is indeed pitiful that these "principles" are so clearly set forth in Mr. Bryan's articles and addresses that many of the uninformed lay population readily conclude that they form the substance of the teachings of the American biologists as well as the hundreds of other loyal supporters of Evolution.

Articles of Faith of the Evolutionists as Portrayed by Mr. Bryan in His Popular Books*—A. "The Bible and Its Enemies", B. "In His Image".

Art. I. We believe that we **"explain everything according to evolution."** (A. p. 23)

Art. II. ORIGIN OF THE EYE. We believe that the eyes of the higher forms of animal life are direct derivatives of a freckle, and that one eye originated on one side of the head long before the other. This strange process was brought about by the following method: **"There was a time when the little animal did not have any eyes and as it was time for it to get an eye it just happened.....that a little piece of pigment (some call it a freckle) came on the skin. That converged the rays of the sun, and when the little animal felt the heat on that spot it turned it toward the**

* Bryan rehashes these strange contentions in his latest book, "Seven Questions in Dispute." (Revell, 1924.)

sun to get more heat. The sun's heat irritated it, and a nerve came there, and out of that nerve came an eye!" (A. page 24; B. page 98).

Art. III. ORIGIN OF THE LEGS. We believe that one leg of all animals was formed directly from a large wart on the animal's belly. We are uncertain as to the origin of the other legs, but this process came about through the following method: **"There was a time when the little animal had no legs and the legs had to come. As this little animal was wiggling along a wart came on its belly—just happened. It found that it could use this wart to work itself along, and finally it developed into a leg—only one leg, of course, and the other had to come in just the right place."** (A. page 25; B. page 98).

Art. IV. ELIMINATION OF THE HAIR. Since the bodies of monkeys, which are the ancestors of man, are covered with a dense layer of hair, we propose the following explanation for the hairless condition of man (since, by the way the human race is **entirely** hairless). **"Hair was bred off by the female preferring the males with the least hair. Of course it required ages."** The principle difficulty in connection with this process would be presented as follows: **"The females would not agree with such a preference. If no two women can agree as to a hat how could the female brutes all agree on so impractical a thing as breeding the hair off."** (A. page 27, 28; B. page 96.)

Art. V. ORIGIN AND ADVANTAGE OF BALD-HEADED MEN. We believe that bald-headed men originated by sexual selection, as indicated in Article IV. (A. p. 28).

Art. VI. THE SIGNIFICANCE OF TOE WIGGLING. We believe that the wiggling of a baby's toe is an unquestionable proof that men once climbed trees. (Lines 14-18). **"A baby can wiggle its big toe without wiggling its other toes. This is an indication that it once used its big toe in climbing trees."** (A. p. 29; B. p. 100).

Art. VII. THE SIGNIFICANCE OF DREAMS. We

believe that the fact that we never kill ourselves when we dream of falling is a strong proof of the law of the survival of the fittest, and that the fittest man who fell from the tree never killed himself. **"We often dream of falling. Those who fell out of trees some fifty thousand years ago and were killed had no descendants.....those who fell and were not hurt of course lived.....We are descended from those who fell and were not hurt".** (A. p. 29 and 30; B. p. 101).

Art. VIII. MAN CAME FROM WATER PUPPIES. We believe that our extreme docility is due to the fact that we are direct descendants of the humble little water puppies which inhabit the slime. **"Water puppies crawled up onto the land and decided to live there and became man's first progenitor."** (A. p. 30; B. p. 101.)

Art. IX. EXISTENCE OF GOD. We believe that God was once on the earth but went to sleep. **"God has been asleep for two hundred million years. . . . . God has not been allowed to do anything for billions of years."** (A. p. 32).

Art. X. THE BRUTE NATURE OF COLLEGE STUDENTS' BODIES. We believe that American students possess bodies of brutes and brains of men. **"He goes off to college and the professor takes a book 600 pages thick and tries to convince him that his body is a brute's body."** (A. p. 34).

College Students Become Disgusted.

The author of "In His Image" not only accepts the erroneous interpretation of the Theory of Descent as teaching that monkeys are the ancestors of man, but sarcastically flies at Darwin's throat for not permitting him **"to indulge in a patriotic pride of ancestry; instead of letting us descend from American monkeys, he connects us with the European branch of the monkey family."** (In His Image, p. 90). Such childishness might appeal to the thoughtless emotional reader or even the ruffian, but those who are

searching for the truths relating to the fundamental teachings of the evolutionist, will look with disgust upon such crudity.

So deceptive are such crude teachings that thousands of our church people (not necessarily ministers) are dogmatically informing the young people that they must agree with Bryan before they are eligible for the work of the church. An example of this was presented to the author just recently. A young lady of high standing happened to be one of the principal teachers in the primary department of her Bible School. One of the leading lay members who had heard Mr. Bryan's lectures on evolution informed this accomplished young lady that she could not believe in evolution and be a Christian. She forthwith offered her resignation from her Sunday School class and her church work in general, saying that if the crude absurdities of Mr. Bryan were the principal basis of the Christian religion she supposed she would not care to be a Christian. It took a number of weeks for this splendid girl to regain her spiritual balance.

Such instances suggest that evolution is not the only factor which is influencing the religious life of the College student. I have heard a number of anti-evolutionists lecture and in every case thrilling stories are told about how the "young people who have been brought up in Christian homes go off to college and come home at the end of four years ridiculing the Bible, Church and Religion." **"Therefore,"** says the Bryanite, **"Evolution is making infidels of our college students."** Hundreds of ministers are proclaiming this illogical conclusion after having read and been inspired by pages 118 to 121 of Bryan's book "In His Image", in which many such **hearsay** stories are told. How could it be evolutionary teachings which caused the student to return home less interested in the old Church when in many instances the student had majored in departments in which no reference was ever made to the "infidel making subject?"

Should not Certain Social and Moral Factors Be Considered?

The author contends that in numerous instances the student has not necessarily lost faith in religion but rather in the obvious fallacies of certain teachings. They have simply begun to think for themselves and having been under different environmental conditions, their thoughts are disturbing to their former religious teachers because they are not still identical with their own. After such young people drop back into their old home community and receive severe criticism from their pastor and others for having changed their viewpoint, even though they may be right, they soon become disgusted and lose interest in the Church.

Anti-Evolution vs. Christian Faith.

It probably never occurred to the anti-evolution propagandist that there is a possibility of his doctrine weakening the Christian faith more than that of his opponents. It might be well for Mauro, McCann, Conant, Graebner, Bryan, Patterson, Fairhurst, Johnston and other honest but misguided leaders to pause a moment and place a questionnaire before the young college men and women relative to the effect of anti-evolution teaching on their thinking. Is it possible that such an inquiry would be comparable to the one relating to evolution presented in Chapter III in which it was conclusively shown that **the teaching of evolution is, not injurious to the student but rather an asset to his Christian faith?**

College Students Think for Themselves.

The elementary, and fallacious teachings of the anti-evolutionist being obvious to the student, he seeks information elsewhere. In the first place the various speakers and writers opposing evolution are not consistent in their teachings. Each has his own **interpretation** of the Scripture and becomes impatient if a college student disagrees. What a hopeless muddle, for example, one would be in were he to attempt to agree with all views of Creation.

One anti-evolutionist divides "Creation" into three stages; Creation, Confusion, and Construction. In the age of Creation God made a complete world and after populating it with plants and animals and "Angelic Creatures" destroyed the whole thing or rather "turned it upside down—plowed it up", thus burying at one stroke the various geologic forms as well as oil, gas, and coal. Such a scriptural interpretation will not account for recent sedimentary deposits. While the hall resounded with "Amens" for this beautiful explanation for the existence of fossils without an evolutionary process, students on every hand ridiculed the speaker for his obvious fallacies. How this plowing up process culminated in definite systematic layers of strata, containing animal and plant forms in systematic phylogenetic order no one could venture a guess,—a paradoxical situation—in that **confusion** was **systematic.**

Furthermore, with what reverence will a thoughtful college student sit in a beautiful church, the stones of which are made largely of Crinoids and other sea forms, many species of which are no longer living, and listen to an anti-evolution discourse in which it is claimed that God created at one stroke every plant and animal that ever did or ever will live on earth. **Is it not possible that such college students may be injured more by such teachings than by a logical presentation of the cardinal facts of Evolution, Genetics and Eugenics which are in full accord with the Scripture?**

With this thought in mind the reader is invited to consider the fallacies of the anti-evolutionists presented in the following chapters.

CHAPTER V

THE ORIGIN OF MAN

"It is Mud or Monkey."—Lyell.

"Man's real dignity consists not in his origin but in what he is and what he may become."—Conklin.

Anthropomorphism of the Fundamentalists.

Certain teachings of the evolutionist with reference to the origin of man seem to be the target at which the artillery of the anti-evolutionist is focused. Mr. Bryan says, (In His Image, p. 88) "If we accept the Bible as true we have no difficulty in determining the origin of man." The author would prefer to say that if we accept Mr. Bryan's **interpretation** of the Bible we would have no difficulty in determining the origin of man. However, we certainly would be unable to explain the geological history of man as clearly revealed by the fossils. Is it fair to narrow down the interpretation of any passage of Scripture down to the conceptions of one or a few men? Are we to accept the anthropomorphism (picturing God as acting in the manner of a man) of the Fundamentalists as the teachings of Genesis and by so doing detract from the moral and spiritual values? To say that Mr. Bryan has given the first chapter of Genesis a literal interpretation would be stating the situation too mildly. His picture of Creation would indicate rather a crude type of materialism, picturing God as a material workman making Adam as the Egyptians and Babylonians used a potter's wheel. Mr. Bryan says, (In His Image, p. 97) "Take the eye, for instance; believing in the Mosaic account, I believe that God made the eyes when he made man—not only made the eyes, but **carved out the cavern in the skull in which they hang.**" Since this is pictured as a mechanical process the present critic has no hesitancy in saying that the author of the above mentioned volume would have confronted more difficulty had he attempted to

picture to his readers the mechanics by which God "hung" in place every integral part of the intricate nervous system. So materialistic is Bryan's picture of the Creation of man, one can visualize a pulmotor attached to Adam's mouth pumping away at his cold clay lungs. How could anyone read into Genesis 2:7 such materialism? If we concede that man was "formed" (yazar, "to form") directly out of the clayey soil by the actual manipulation of God's hand, it becomes evident that all animals are similarly formed, for the accounts are identical. "And **out of the ground Jehovah God formed** every beast of the field, and every bird of the heavens." If this anthropomorphic conception of God's work be held as a literal interpretation of Creation our Omnipotent God becomes a callous handed physical laborer, for the Psalmist speaks of him as making the heavens, the earth and the sea.

"When I consider thy heavens, the works of thy fingers (8:3).

"The heavens declare the glory of God; and the firmament showeth his handiwork" (19:1).

"The sea is his, and he made it; and his hands formed the dry land" (95:5.

The vitalistic evolutionists object seriously to the Fundamentalist's conception of this physical God and **His carpenter-like method of Creation.** The absurdity of the physical "Image of God" is made obvious when we accept the common conception of God as **an incomprehensible Being, a Spirit,—infinite, eternal, and unchangeable.** Since God is a Spirit, not existing as a physical being, man could not have been created in His **physical** image. Is it not much more ennobling to conclude that man is created in the spiritual "image of God" than to materialize the Creation and involve the physical? When thus viewed the theistic evolutionists have no difficulty in accepting the following:

> "And God said, Let us make man in our own image, after our likeness.....So God **created** man in his own image of God **created** he him; male and female **created** he them." —Gen. 1, 26-27.

Present and Future of Man More Important than Past.

May the day be hastened when we shall realize that the "authority of the Bible rests upon it's saving power," and not upon it's materialistic presentation of scientific facts. Then and only then will it's spiritual truths redeem mankind. Professor Conklin (New York Times, March 5, 1922) reminds us that "God did not speak man into existence as when God said, 'Let there be light and there was light'. But a process is described by which man was formed. Since the Scriptures describe a process in the Creation of Man, the opponents of the theory of evolution ought to be able to conceive of a dignified and divine way in which the Creator fashioned man, but this they do not do. The idea that the Eternal God took mud or mortar and molded it with hands or tools into the human form is not only irreverent, it is ridiculous. How much more like the usual workings of that power by whom and through whom are all things is the view of evolution that God made the first man as he has made the last, and that His creative power is manifest just as truly and as greatly in the origin of the last child of Adam as in the original Adam? **Is it any more degrading to hold that man was made through a long line of animal ancestry than to believe that he was made directly from the dust? Surely the horse and the dog and the monkey belong to higher orders of existence than do the clod and the stone.** Whether we accept the teachings of evolution or the most literal interpretation of the Biblical account we are compelled to recognize the fact that our bodily origin has been a humble one; as Sir Charles Lyell once said: 'IT IS MUD OR MONKEY'. But this lowly origin does not destroy the dignity of man: HIS REAL DIGNITY CONSISTS NOT IN HIS ORIGIN BUT IN WHAT HE IS AND WHAT HE MAY BECOME."

After reading this chapter one of the reviewers, a man of eminence in his line, expressed his convictions thus: "Yes, we are made out of the dust of the earth; in fact, out of the commonest dust there is, and the omnipotent Creator

made us, in his own way, which **method,** the students of life and living forms have discovered. The length of time used by the Creator is a matter of little importance because He had eternity at His command. Even the plain fisherman, Peter the founder of the church explained to one of his congregations in one of his letters: "A thousand years is a day with the Lord; and a day as a thousand years." If Peter's language had had the word million he would probably have used that word instead of "thousand".

Professor Borden P. Bowne, one of America's greatest religious philosophers, with his insistence upon the Divine Immanence in nature, objects seriously to crediting God with **only** "the outstanding facts which as yet have found no natural explanation." He uses the following story to illustrate the immanence of God in the Common Laws of Nature: An Eastern King was seated in a garden, and one of his counselors was speaking of the wonderful works of God. "Show me a sign." "Here are four acorns," said the counselor; "will your majesty plant them in the ground, and then stoop down for a moment and look into this clear pool of water?" The king did so. "Now," said the other, "look up." The king looked up and saw four oak-trees where he had planted the acorns. "Wonderful!" he exclaimed; "this is indeed the work of God." "How long were you looking into the water?" asked the counselor. "Only a second," said the king. "Eighty years have passed as a second," said the other. The king looked at his garments; they were thread bare. He looked at his reflection in the water; he had become an old man. "There is no miracle here, then," he said angrily. "Yes," said the other; **"It is God's work, whether he does it in one second or in eighty years."** So as Bishop Quayle points out, no specific method of creation is essential to the fundamentals of the Christian doctrine. This noted Bishop emphasizes the fact that it would be just as easy and as miraculous for God to have created the Universe by an evolutionary process as it would for him to have spoken things into existence "like a flash of light." (The Dynamite of God. Methodist Book Concern.)

"UNEXPLAINED ORIGINS" VS. THE EVOLUTION OF LIFE

> "To insist, as some have done, that the theory of evolution has failed because it has not yet solved all of these problems is to underestimate both the magnitude of the problems concerned and the progress which has been made toward their solution; **to reject evolution, as others have done, because the problems are too great to be solved by the scientific method, is to renounce the slow and sure progress of science in favor of pure speculation and mysticism in which no progress at all is possible."—Conklin.**

Origin Is not Evolution.

The various anti-evolution writers are constantly quoting "unexplained origins" as one of the greatest stumbling blocks to the science of evolution. They seem to think that could they only convince the public that the origin of matter, force, and life is unexplainable, the entire doctrine of evolution becomes useless. Graebner* presents an extensive chapter on "Unexplained Origins" in which he defines evolution as "a theory of origins" and in the same paragraph speaks of "the evolutionary scheme of development."—an obvious confusion of terms. He states the criterion by which his readers are asked to judge the strength of the theory as follows: "Since the evolutionary hypothesis is employed as an explanation of certain origins, a **legitimate test** of the theory is its adaptation to explain the origins." Then after showing that the evolutionists are at variance with reference to the origin of atoms, molecules, universe, life, etc., he concludes that evolution is only an hypothesis. The obvious fallacy in this line of argument is found in the fact that **the evolution of an animal might be studied in detail without reference to its first origin.** It is universally conceded, for example, that our large domesticated porkers

* Evolution—An investigation and a criticism.

were developed (evolved) from the wild hogs. How foolish it would be to conclude that no one who is not familiar with the paleontological history of the hogs cannot be expected to believe in swine improvement. Even though we may be unfamiliar with the **origin** of the wild hog we can see for ourselves the **evolution** of the domesticated derivatives during the past few hundred years. In like manner the evolutionary relationships between any two animal groups might be studied in the most minute detail without mentioning the primitive origins of such groups.

It is a strange philosophy to contend that no consideration should be given to the scores of relationships which exist between man and the other Primates, since science has not as yet completely bridged the chasm between the organic and inorganic realms. Perhaps no one feels more keenly than does the biologist the need for additional information relative to the origin of matter, force, and life. However, in admitting that this is a question for philosophy rather than for science to answer, we are not minimizing the facts of evolution. **Origin is not evolution, though the science of the latter blends with the philosophy of the former.** Instead of agreeing with Fairhurst*, in that evolution is "a **philosophy** of creation," the present author would prefer to say that **evolution is the science of development** which reaches far back into the dark realms of the past and blends with the philosophy of creation. The anti-evolutionists are thus wasting their time in presenting testimonies which aim to emphasize the mystery and miracle of **origins** for evolutionists all along the line have admitted this. After tracing the science of evolution back into the philosophy of origins Darwin said, "I am in a hopeless muddle." Professor Clodd said, "Of the **beginning** of what was before the present state of things, we know nothing and speculation is futile" (Story of Creation, p. 137). Huxley says: "Of the causes which led to the Origination of living matter it may

* Atheism in our universities, p 29. Published 1923.

be said that we know absolutely nothing." "The present state of knowledge furnishes us with no link between the living and the non living." Chamberlin says (Science, June 1899) "Mathematics and dynamics fail us when we contemplate the earth, fitted for life but lifeless and try to imagine the commencement of life upon it. This certainly did not take place by any action of chemistry, or electricity, or crystalline grouping of molecules under the influence of force, or by any possible kind of fortuitous concourse of atoms. We must pause, face to face with the mystery and miracle of the creation of living creatures."

Evolutionists Recognize the Creator.

Mr. Graebner in his book, "Evolution, an Investigation and a Criticism," claims to have uncovered the fallacies of evolution when he presents Wallace as a witness against the possibilities of originating protoplasm. The following quotation furthermore indicates that this anti-evolutionist has forced the eminent scientist to admit a Living God of Progress—"a new Power." He says, "It is a notable fact that many evolutionists (among them Alfred Russel Wallace, the co-discoverer of the theory which goes under Darwin's name) **frankly admit the inability to account for the origin of protoplasm.** From mineral substances, protoplasm differs in that it possesses the power of growth, development and reproduction. The very first vegetable cell 'must have possessed altogether **new powers'**, says Mr. Wallace,—'that of extracting carbon from the air and that of indefinite reproduction. Here.'—note this admission—'we have indications of **a new power at work.'** In other words, forces resident in matter no longer suffice. **The evolutionistic principle breaks down."** (Graebner, page 36).

What a strange conclusion especially for a theologian. Why does the acknowledgement of "a new Power" cause the "evolutionistic principle" to break down? Why would not a theologian like Graebner be the first to admit develop-

mental processes through the Divine working of "A Living God of Progress?" He need not attempt to **force** Mr. Wallace to an acceptance of a Superior Power in the workings of nature, for this eminent evolutionist frankly states his own convictions thus, **"We find that Darwinism does NOT oppose but lends a decided support to religion; it teaches us that we possess intellectual and moral faculties which could not have been developed but for an unseen Universe of Spirit."**

Mr. Graebner is, moreover, unable to understand why Darwin himself can be an evolutionist and still accept the Divine Fiat. He reminds us that Darwin said, **"There is a grandeur in this view of life, with its several powers, having been originally breathed by the Creator into the first forms or into one."** Mr. Graebner admits his bewilderment thus, "But if, as Mr. Darwin says, life was breathed by the Creator into the first forms, this constitutes a break in the sufficiency of natural causes alone to produce life. If a special fiat was necessary at this point, why may it not have been at others?" The evolutionary workings of the Living God of Progress are also puzzling to Fairhurst. In his "Organic Evolution Considered" he says, "If the Creator could breathe life into a few forms or into one, as Darwin thinks he did, without violating the law of his own being, and **in accordance with the laws which he has established,** it seems evident that he might at OTHER TIMES breathe life into other forms **in accordance with his laws."** Precisely so! No better conclusion could be reached. Unquestionably the Living God of Progress is constantly playing the master hand today in the great evolutionary process of creation.

Let it again be emphasized that the gap between the organic and the inorganic cannot be used as an argument against the developmental processes which are affecting plant and animal life. However, were the so-called "Unexplained Origins" the essential foundation to evolution, there would still be ample grounds for retaining this science. As was suggested, above, much of the philosophy of origins is

well established by the circumstantial evidence of the science of evolution. Moreover, the analytic and synthetic processes of chemistry are slowly but surely closing the gap between the organic and inorganic worlds. While considering the subject in "The Laws of Life," p. 77 (Richard G. Badger, Boston) the author said, "The fact that chemists have on several occasions been able to produce a protoplasm-like substance in the laboratory would seem to lend support to the view that man may some day produce this life substance. However, it must be borne in mind that no substance has been, as yet, produced, which possesses metabolic powers, or which is irritable in a living sense. Emil Fisher has succeeded in producing polypeptids (combination of aminoacids), and Butler Burke has provided other links between living and non-living matter, but the actual production of living protoplasm in the chemical laboratory is, as yet, a human impossibility. **If it should so happen that some synthetic process should be discovered by which active living protoplasm could be made, or even a higher form of life originated, man could not even then be called a creator; he would have become only a discoverer of another method of the Great Creator.** OUR RELIGIOUS CONVICTIONS NEED BE SHAKEN NO MORE BY A BIOLOGIST PRODUCING LIFE IN THE LABORATORY THAN BY THE CHEMIST'S SOLVING SOME OF THE MODERN PROBLEMS OF ELECTRO-CHEMISTRY."

Graebner's "Biological Barriers" to Evolution.

Mr. Graebner in his chapter on "Unexplained Origins" presents six insurmountable (as he would say) barriers to the theory of development. The first three, origin of the atom, molecule and life, which he places in the physical realm are considered above. Objections to the following three "Biological Barriers" are herewith presented: The absence of a connecting link between (1) plants and animals, (2) vertebrate and invertebrate animals, and (3) mammals and sub-mammals. The fact that the average college fresh-

man, if not the high school biology student, can enumerate and discuss many classical forms which serve to bridge the chasm which this writer imagines exists between each of these forms, causes the author to feel that his time is being wasted in such an elementary presentation. However, in appreciation of the fact that hundreds of Mr. Graebner's readers have no reason for questioning his authority a brief reference will be made to his fallacies and oversights.

Plants and Animals Related.

To the casual observer the close evolutionary kinship between the plant and animal kingdoms is not easily understood. In fact, the distinguishing characteristics between plants and animals are obvious. The oak differs materially from the man. The structure of the former is variable, the latter more or less invariable; the former possesses simple external food-obtaining organs while the complicated organs of the latter are internal; the former is stationary while the latter is motile; the former has little response to stimuli while the latter is exceedingly irritable. The tree possesses chlorophyll and thus manufactures its own food from carbon dioxide and water in the presence of light, while the animal having no chlorophyll requires organic food. The waste products of the former are oxygen, carbon dioxide and water; those of the latter, carbon dioxide, water, urea and feces. It seems obvious, therefore, that plants and animals are not even comparable.

However, no evolutionist claims a direct relation between the higher animals and the higher plants; the claim being rather that the two originated together and developed along divergent lines. This would indicate that the lower forms of the two kingdoms possess characteristics in common. Graebner says (p. 40, "Evolution") "Plants live, animals live and feel," implying that plants are not irritable. This fallacy should be obvious to the writer himself. It is true that as a general rule the higher plants respond very slowly to external stimuli; and their power of transmitting

impulses is poorly developed. However, there are many exceptions to this rule—the common sensitive plant, Mimosa pudica, being the most notable. With the lower plants the exceptions outrule the rule, to such an extent that many forms are claimed by both botanists and zoologists, being included in both botany and zoology textbooks.

One of these forms which may be found in abundance in the stagnant ponds of most any section of the country is the common green Euglena. This little microscopic "plant-animal" possesses the power of locomotion characteristic of animals, has a mouth-like opening into a "gullet". It also possesses a primitive eye spot. On the other hand, this organism is decidedly like a plant in that it manufactures its own food by the aid of chlorophyll contained in the chromatophores. Mr. Graebner and the other anti-evolutionists may find numerous other plant-like animals and animal-like plants discussed in elementary textbooks and thus **avoid such gross errors as teaching that there are no connecting links between the two great kingdoms.**

The "Impassable" Barrier between the Vertebrates and Invertebrates.

The amateurishness of Mr. Graebner's logic (or rather his illogic) is made obvious by a single quotation . He says (p. 41) "Between these two groups the barrier of backbone stands impassable till it is explainable how a serpent, or a starfish acquires the skeleton of a shark." Evolutionary relationships are not established by any such miraculous transformations. In the introductory chapter of most any vertebrate zoology may be found discussions of various forms, which are intermediate between the vertebrates and invertebrates. In the author's more extensive works ("The Laws of Life") such connecting links as Balanoglossus (the acorn-tongued worm), Molgula (sea-squirt), and Amphioxus are discussed. In speaking of the last mentioned ani-

mal Atwood '22 in his High School Biology* said "Amphioxus is of great interest to zoologists because it represents the type of central nervous and skeletal systems that was probably possessed by the primitive vertebrates. A rod of cartilage runs from the head to the tail of the animal, and dorsal to this, the nerve cord runs. It is simply a bundle of nerve cells and fibers that forecasts the spinal cord in the higher vertebrates."

"Whence the Breast?"

Here again our eminent anti-evolutionist displays his inability to discuss biological subjects. He says (p. 41) "Vertebrates are either mammals or sub-mammals. The breastless tribes are birds, reptiles and fishes. These are far beneath in the scale, while the mammal by its peculiar endowment in that it gives suck to its young, stands erect, aloft, and apart. Till it is shown **how an animal that never got milk from its mother stumbled on the capacity of giving what was never given it, the breast will stand, against all dreams of development, companion-barrier to the backbone. Nor is there an animal that can be regarded as a connecting link between these two master groups."**

The author elsewhere said, "The dominant characteristic of mammals is the method of nourishing the young with milk from the mammary glands of the mother—hence the name mammal. Associated with this is the habit of bearing the young alive, the egg being fertilized and undergoing development in the body of the female. The relationship between this, the highest group of animals, and the class below—the egg-layers—is shown by the method of reproduction of the lowest mammals—the monotremes. These primitive forms possess mammalian characteristics in general but still lay eggs as do the birds." After the young of the monotreme mammals (the duckbill and the anteater) are hatched like chickens, the young are nour-

* "Civic and Economic Biology", Wm. H. Atwood, P. Blakiston's Sons & Co.

ished by milk from the mammary glands. However, they do not suck the teat as do the common mammals for, in the absence of a teat, the milk simply oozes out over the hair of the mother's abdomen. The young either suck or lick the milk from this hair. Certainly the monotremes are more primitive than such mammals as the cow with her highly developed mammary glands.

How could the most ignorant anti-evolutionist assert, as did Graebner, ("Evolution", p. 42) that there is no "animal that can be regarded as a connecting link between" the mammals and sub-mammals when the strange primitive methods of reproduction of the common opossum and other marsupials is so well known. Eggs of these animals are formed as are those of the birds but remain shell-less in the uterus until they hatch. The young thus born in a very immature condition are transferred by the mother's lips to a pouch on her abdomen where they obtain milk from very primitive mammary glands.

These two illustrations should suffice to show the inexcusable fallacy of the contention on the part of the poorly-informed anti-evolutionists that there exists a great barrier between the mammals and sub-mammals. Any good zoology text will give other forms whose characteristics serve to further bridge the so-called "impassable biological barriers,"—**barriers which would not exist even in the mind of the anti-evolutionists if they would condescend to inform themselves upon the simple facts of Nature.**

CHAPTER VII

"UNANSWERABLE 'CHALLENGE TO DARWINISM'"

"Mr. Bryan—a bundle of loosely tied emotions, to whom a catchy phrase or an unusual theory is more precious than a Natural law or the wisdom of a philosopher."
"Mirrors of Washington"—Page 214.
Copyright 1921. G. P. Putnams Sons.

Catchy Phrases or Scientific Facts.

Many of the Anti-evolution orators are winning their audiences with "catchy phrases" which are soothing to the emotional ear, but not pleasing to the active mind. Such "catchy phrases" as **"It is better to trust in the Rock of Ages than to know the Age of the Rocks"** or "It is better for one to know that he is close to the Heavenly Father, than to know how far the stars in the heavens are apart" (In His Image, p. 93) are characteristic expressions, which are both ambiguous and misleading. Would it not be possible for one to know something of the Age of Rocks and still be a loyal adherent to the Christian faith—assuming that this is the interpretation to be placed upon the "Rock of Ages"? It would be just as reasonable to contend that **it would be better to have in the home a grand baby than a baby grand,** implying that both baby and piano could not be in the same home. It might also be asked if a knowledge of astronomy would prevent one's living close to the Heavenly Father?" Any such implication that any scientific truth is in any way a barrier to a belief in the Christian Faith, are relics of the 18th Century and should have no place in the **new regime of either science or religion.**

In view of such misleading expressions we fully agree with the publishers of "In His Image" who in their advertisement of the eighth large edition within a year emphatically contend that Mr. Bryan's book is "UNANSWERABLE." **Unanswerable!** Indeed so. Some works are so enshrouded with logically presented scientific facts that

they are unanswerable, while others are so foreign to present day conceptions that the authoritative men of science have neither time nor inclination to consider the matter. All common grounds for discussion between Mr. Bryan and those whom he opposes are swept away when he implies that the evolutionists are teaching that the Bible must "be discarded for scientific works," (p. 94) and the distance between them is increased when the Bible is presented as a book of science. Granting that during the half century of research Darwin erred in some details, who would presume to agree with Mr. Bryan in that "There is more science in the 24th verse of the first chapter of Genesis, than in all that Darwin wrote." This Divine order which says, "Let the earth bring forth the living creature after his kind, cattle and creeping things; and beast of the earth after his kind; and it was so," was a beautiful poetic summary of God's work, neither incompatible with Darwin's discovery as to the slow method God used in "bringing forth the living creatures," nor out of harmony with recently discovered Laws of Heredity.

Philip Mauro's Book "Evolution at the Bar" is "Unanswerable."

Although Mauro has written a score of books which have been vital factors in the moral and spiritual development of his readers, his last volume is destined to offset much of the desirable influence of his earlier writings. He is probably expecting the biologist to challenge his antagonistic volume chapter by chapter but he may rest assured that such will not be the case. Although appearing in 1922, some of his discussions are so antiquated that no biologist will condescend to raise serious objections. Even though he holds up "evolution" before the "Bar", a critical analysis fails to reveal a consideration of modern progressive "evolution" as is being taught today in the American Colleges. The present critic can recognize in Mauro's writings almost nothing which the authoritative men of science would place

under the caption "evolution". So as Professor Conklin said when asked to reply to Lowrey's criticisms* of his book on human evolution, "I have neither the time nor the inclination to attempt to answer in detail every criticism, misinterpretation, and innuendo which my friendly enemy, or hostile friend, indulges." However, a brief reference will be made to certain passages found in "Evolution at the Bar" which shall serve as a key to the authenticity of this work.

In view of the millions of American citizens who visit the great museums of our country and see the skulls of prehistoric men, it seems strange that Mauro still contends that, **"not a single human skull or other bone has ever been discovered that differs in any marked degree from corresponding parts of human beings now living."** (p. 55) Unanswerable! Yes, if the skulls themselves are not evidence.

In renewing the century old controversy over the geologic strata as a key to animal succession of the past ages, he says (p. 7), "There is **nothing whatever** to forbid the idea that the present varieties of species existed **at the same time** with those now extinct forms." It was noted in chapter III that a college **Freshman** answered that strange contention as follows, "The fact that man's bones which are as enduring as animals are not found among the fossils of earlier periods, is absolutely convincing." Even the grade child would resent the teachings "that the present varieties' of animals "existed **at the same time** with the great dinosaurs of the Coal Age, some fifteen million years ago." Furthermore the thoughtful reader will see the absurdity in stating "that the present varieties . . . . . existed" even last year since the horticulturist and animal husbandrist are continually propagating new varieties.

Price's "upside down" Geology is "Unanswerable."

It is quite probable that Mauro is taking Professor

* Methodist Review September-October 1922.

Price for his authority in geology, as this self-made teacher of philosophical geology holds similar absurd views. Since the author is not a teacher of Geology he does not care to enter the controversy. However, it does seem reasonable for even the anti-evolutionists to consider seriously Professor Price's claims since his training in that field is nihil, as compared with the men he opposes. It is true as one writer states that works of "eminent" Geologists support many of his claims, but the public is again deceived in that these eminent personages lived when geology was in its infancy. It is interesting to note that the Evangelist Conant* (page 22) presented convincing evidence against certain phases of evolution by citing the following works without including the dates—as though the investigators were active today: Professor Rudolf Virchow (1821-1902), German authority on physiology; Professor John Tyndall (1820-1893), British physicist; Professor L. S. Beale (1826-1906), Physiologist and professor of Anatomy in King's College, London; Sir J. William Dawson (1820-1899), Canadian Geologist; Professor John S. Henslow (1796-1861), English Botanist; Professor C. C. Everett (1829-1900), Clergyman and Professor of Theology, Harvard University; Professor Fredrich Paulsan (1846-1908), German Philosopher. Such is characteristic of the evidence presented by Price, Conant and other "Fundamentalists."

The authenticity of Professor Price's works may be determined by the following extract from "Science" (June 30, 1922) written by Professor Arthur Miller of the University of Kentucky.

"Reference was made in my contribution to Science for February 17 to Professor Price, alleged geologist, upon whose scientific vagaries a reactionary theology relies much in its recent attack on evolution—the result of a recrudescence of the old conflict which such a theology has ever waged against the progress of science.

"George McCready Price, who since 1906 has held positions as professor of geology, College of Medical Evangelists, Loma Linda, California, Professor of English literature, Fernando Academy,

* The Church, the School, and Evolution.

and professor of chemistry and physics, Lodi Academy, California, is evidently in the religious denomination (Seventh Day Adventist) to which he belongs held to be a man of considerable versatility. (Professor Price has recently, 1922, been elected Professor of Geology, Union College, Nebraska.)

"The writings by which he is best known are two books, "Fundamentals of Geology" (1913), and "Q. E. D., or New Lights on the Doctrine of Creation" (1917), and numerous articles in the religious press—chiefly the Philadelphia Sunday School Times.

"The distinctive ideas for which he stands in geology (the only ones to be reviewed in this article) are:

First: What he terms the "New Catastrophism," which turns out to be nothing more than the Old Catastrophism embodied in the Noachian Deluge.

Second: A literal creation of material things (the sidereal universe with its parts apparently in different stages of development—its nebulae, hydrogen stars, metallic stars, carbon stars and dark stars); and all animate things (trilobits, nummulites, graptolites, ammonites, sigillaria, the fishes of the Old Red Sandstone, the large reptiles of the Mesozoic, the mammoth and the mastodon, the one-toed horse and the three-toed horse, and man) all at one and the same time (just as set forth in the first chapter of Genesis.)

"While not committing himself to any estimate of the time back of the present when all this took place, it is evident that he leans to a 'short chronology'; for in Chapter IX of his Fundamentals of Geology he argues for a catastrophic instead of a uniformitarian rate for the deposition of strata. In Chapter I of his "Q. E. D." he refers to the study of the phenomena of radioactivity as having 'thrown a good deal of doubt upon the older estimates of the age of the earth,' but he fails to inform his reader that such study has revealed the necessity of postulating a long succession of atomic transformations, and has enormously extended the length of geologic time.

"Realizing that if there has been a geological succession of life on the earth 'then some form of genetic connection between these successive types is the intuitive conclusion of every thinking mind, even though the recovery of these connecting links may prove impossible,' and his Genesis account, which he is out to defend at all hazards, goes by the board, **he flatly denies that there has been any geological succession,** and sets himself to the task of endeavoring to prove the astounding thesis **'that all fossils are of the same age and none of them older than man.'** In doing this he shows wide familiarity with gelogical literature, quoting largely from the most eminent authorities in this country and in Europe. Any one reading these writings of Price, which possess a certain charm of literary style, and indicate on the part of the author a gift of popular presentation which makes one regret that it had not been devoted to more laudable purpose, must constantly marvel at the character of mind of the man who can go into the literature of the subject and still continue to hold such preposterous opinions.

"The position of superiority he arrogates to himself is amaz-

ing: With his solicitude for harmonizing his views with those of the Bible so palpable, one of his eyes, at least, being always 'kept on Genesis', he still has the face to accuse all 'other geologists' of being biased, charging that they hold to a belief in geological succession 'solely on the strength of the infallibility of a theory (elsewhere referred to as the onion-coat theory of Werner) 'invented a hundred years ago in a little corner of Western Europe.'

"So much under the spell of this old Wernerian hypothesis are geologists still (except himself), that, according to Price they 'invent' unconformities and faults to explain breaks and repetitions in the life succession.

"Price especially endeavors to find 'mare's nests' in the 'alleged' great thrust faults of the earth, impugning the competency or integrity, or both, of the distinguished geologists who vouch for their existence: as that of Heim and Rothpletz for the great Glarus overthrust in the Alps, that of Geikie for the great overthrust in Scotland, that of McConnel, Campbell and Willis for the great overthrust along the eastern front of the Rockies in Canada and northwestern United States, and finally that of Hayes for the numerous overthrusts in the southern Appalachians.

"Professor Price also thinks he has found another geological 'mare's nest,' one that ought to confound these believers in a geological succession, in the fact:

'That the rivers of the world in cutting across the country, completely ignore the varying ages of the rocks in the different parts of their courses, and act precisely as if they began sawing at them all at the same time.'

"Evidently the conception of a superimposed river ,disclosing old buried structures as it deepens its channel, **so easily understood by any high school student of psysiography, is beyond the mental grasp of the author of 'Fundamentals of Geology.'**

"This then is the man who, while a member of no scientific body and absolutely unknown in scientific circles, has in at least one of his contributions to the religious press (the one in which he tried to make much of the so-called anti-evolution admissions of Bateson) had the effrontery to style himself, 'Geologist,' in the expression he there used 'we Geologists'; and **this is the man who in his support of a literal Genesis is hailed by the 'Fundamentalists' as their great champion**—one who has 'demonstrated the absurdity of the evolutionist's geological theories' and has brought into prominence the 'heretofore mute evidence of a mighty upheaval and a flood.' "

Another So-Called "Authority".

Another so-called "authority" which has recently appeared on the scene to oppose the present day teachings of science, is one Harold W. Clark, Professor of Biology and Geology in Pacific Union College. In a wholesale advertis-

ing scheme the "Signs of the Times" has the following to say:

"The faith needs defenders now as never before—men and women who can give a reason for their hope and their belief. To equip such defenders with weapons of defense and aggression, the editors of "Signs" have secured a **most noteworthy series** of articles by Prof. Harold W. Clark. In simple, non-technical language, the author outlines the arguments of the evolutionists and higher critics, and then gives answers to their hypothesis and cavilings that **should forever close their mouths. His arguments are scholarly and scientific,** yet perfectly understandable to the eighth grade boy or girl. For popular appeal, they are unique."

Being unable to find the name of such a "scholarly" writer in any of the standard reference works, the author asked for first hand information. Mr. Clark himself kindly made the following statement relative to his qualifications, "I am just beginning the writing game. I finished **Junior College** Scientific course at South Lancaster, Mass., in 1912, after which I spent 8 years in pioneer school work in Saskatchewan. I received **Bachelor of Science in 1922** from Pacific Union Colege."

Is it not strange that the Editors of Anti-Evolution Journals will ignore the works of the American Men of Science and publish as "scholarly and scientific" the writings of men who have had no experience in original investigation and who are barely college graduates?

'Darwinist Theory Fades as Scientific Knowledge Increases'

The Dearborn Independent (Feb. 10, 1923) carried this heading under the still larger full page caption **"What's So and What Isn't About Evolution."** This word of "final" authority was spoken by George Price whose ranking as an authoritative Man of Science is indicated in the foregoing pages. It is doubtful if a man of recognized standing in any scientific organization would assume sufficient au-

thority to write under such a caption or to entitle a book "Q. E. D."* of Evolution.

The "Scientific Knowledge" which Price applies is causing evolution to collapse is spoken of in scientific literature as Mendelism. In other words it is claimed that Genetics (Mendelism, etc.) in general is more and more pushing the various evolutionary principles into the realms of oblivion. Since it was shown in Chapter II that Mendelism, Genetics, Eugenics, and related subjects constitute a part of the great evolutionary processes, it is obvious that Price is erroneously saying that a knowledge of Genetics which is a part of evolution is causing evolution to collapse—an obvious fallacy, like saying that the more real evolution becomes the more it collapses.

After reviewing various Mendelian Laws of Inheritance, Price concludes thus: "These results among plants and animals are known as Mendelism; and they were first given to the world about 20 years ago. Since then they have completely changed the attitude and the views of the scientific world regarding heredity, and especially regarding the Darwinian TRADITION about plants and animals always showing an unlimited tendency to vary in all directions and to an unlimited degree. **Mendelism is now showing us** EXACTLY HOW THEY VARY; **but it also shows us the precise limits of their variations, and the limits of the possibilities in the way of hereditary transmission.** And as Edwin Grant Conklin remarks: 'At present it is practically certain that there is no other kind of inheritance than Mendelian.'" Although Conklin says that there is no other kind of **inheritance** than Mendelian, he did not say there is no other kind of **variation.** In fact the Anti-evolutionist is confusing these terms—inheritance and variation. He speaks of "modifications which are **born with the individual,** and which are faithfully passed along in heredity" without

* "Q. E. D. or New Lights on the Doctrine of Creation" by George McCready Price, published 1917 by Fleming H. Revell Co.

referring to the method of **the original birth of these new characters.** The present critic agrees, as is shown in his recent book "The Laws of Life," that "distinct characters or factors, whether of form, or color, or whatever . . . . are faithfully **carried** along in heredity according to Mendel's Laws" but would prefer not to deceive his readers into believing that **new charcaters are not arising de novo from unexplainable sources.**

This sudden appearance in plants and animals (including man) of new characters which breed true is called **mutation** and is held by many of the most eminent living scientists to be one of the principal factors which is determining the direction of evolution. Numerous examples of mutations may be found by referring to the index of any recent book dealing with the various problems of Evolution, Genetics and Eugenics. Among the classical examples might be cited the following: Shirley Poppy, Double Petunia, Giant Primrose, (Keeble), White Verbenia, (Schaffner), Red Sunflower (Cockerell), Ancon Sheep (Seth Wright), Merino Sheep, 'Albino' Rats, Hornless 'Herefords' (1889), 'Polled' Cattle, Florida Velvet Beans, Mucuna Utilis, etc.

The Red Sunflower* as a Case of Mutation.

While enthusiastically ushering in evidences to show that the facts of Genetics were acting as a barrier to evolution, Price places himself in a ridiculous position. He shows conclusively that **Wine Red** and **Old Rose** colored Sunflower first appeared as a result of crossing certain other colors and then concludes as follows: "Of course, both these Old Rose and Orange Sunflowers were **wholly new types.** It is probably safe to say that such colors in a sunflower had **never been seen on earth before;** for such combinations as produced them could hardly be imagined to occur naturally.

* For Dependable facts about the Red Sunflower—See pp. 51-61 "Zoology," by T. D. A. Cockerell, published by World Book Co., 1920.

But certainly, if either of these types had been **found growing wild** and **we had not known its method of origin,** and especially if this new and strange color had been accompanied (as it might easily have been) by new forms of leaf or of other habits of growth, we should most certainly have called **it a new species."** Only four inches up the same column Price said "In the year 1910, a red sunflower was discovered **growing by the road** near Boulder, Colorado . . . . **there were no other red sunflowers** . . . . Since "by the road" would be considered as "growing wild" and the origin of this **red** sunflower was unknown, we are pleased to permit our friendly enemy the privilege of citing this flower as an example of evolution in action. In other words this anti-evolutionist while attempting to out-rule evolution cites an example of true mutation and from such fallacies concludes, "There does not seem to be anything solid on which to build any broad scheme of organic evolution."

Although the author agrees with Price in that most of the "new creations" in horticulture and animal breeding result from Mendelian crosses, and the facts of inheritance hold one of the keys to the factors of evolution, the fact must not be overlooked that **mutations are of much significance. When these "new creations" enter the "Struggle for Existence" the "Fittest Survive" and thus "Natural Selection" acts as a sieve in the perpetuation of the desirable characters. Thus Darwinism (Variation, Natural Selection, Overproduction, Struggle for Existence, Survival of the Fittest, Adaptation, etc.—See Chapter II) instead of being in a collapsed condition seizes upon the new characters originated by new combinations and mutations. Therefore since the mutation theory is now known to be a very important supplement to the theory of natural selection (Darwinism), we can logically conclude that the Darwinian theory of evolution is still correct, but not complete. If we condemn Darwin because his scientific knowledge was incomplete, we must likewise condemn ourselves for further research will reveal the meagerness of our knowledge.**

McCann's "God—or Gorilla" "Unanswerable".*

One of the most exhaustive attacks on evolution appeared late in 1922 bearing the significant title "God—or Gorilla." The antagonistic attitude of the writer as well as his misconceptions of present day progressive evolution is clearly portrayed on the cover sheet of his book:

"The author of 'God—or Gorilla' does not argue with the popular idea of evolution, unless ripping the heart out of a thing can be called argument. He pretends to no gentleness as he shows the **'intellectual' victims of scientific superstition** that the very thing they profess to hate has possession of their souls."

"He is the best equipped man in the world today to handle Darwinism, Wellism, **barnyard materialism**—Evolution."

"Colleges, Academies and Schools the country over—many of them religious—are teaching Evolution **teaching your children that they and you are come from a gorilla."**

"Even Ministers and 'teacher-Theologians' of our now Croesus-owned Christianity are **back chattering with the monkeys and hurling milkless nuts at a personal God and at normal God-made men and women."**

It will be noted from the above quotations that the author of that popular volume is of the "blood and thunder" type and lays no claim to sound systematic argument ("ripping the heart out, etc.") I know of no biologist who would consider seriously the challenge of a man of that character especially when **his opponents are referred to as "Intellectual victims of scientific superstition" and when evolution is used synonymous with "barnyard materialism."**

The most astounding fact is that protestant ministers, though opposing the catholic religion, are broadcasting "God—or Gorilla"—a radical Catholic document. The gross deception which these leaders are imposing upon their lay-

* Alfred W. McCann, LL. D., published by The Devin-Adair Company, New York.

men is made clear by Teller in his eighty page review (Published by The Truth Seeker Company, New York). Quotations from Teller's review will indicate the nature of McCann's book; "During my initial reading of the work, I had been repeatedly **struck with surprise at its glaring inaccuracies,** but it was not until I had become aware of the **Jesuitical Character** of the book and the questionable methods employed in the handling of borrowed material. . . . .

"Among the vulgar features of the work are the author's colossal conceit, his unscrupulous attack on Prof. Henry Fairfield Osborn, of the American Museum of Natural History, his vilification of Ernst Haeckel as 'a specialist in fraud and forgeries,' and his vicious but clumsy attempt to fasten responsibility for the World War on the teachings of the evolutionists."

Step by step Teller exposes the fallacies of the book which the author himself had the effrontery to speak of as "an exposure which must shake our entire educational system to the core." This critic concludes his booklet by showing wherein, "God—or Gorilla" bears every indication of having been written under Roman Catholic influences." He says:

> "Evolution may be "a hoax"; scientific men may be deceived; but whatever the fate of Evolution in centuries to come, the intellectual world will never be deceived by the Roman Catholic church."

"Scientific Christian Thinking for Young People."

A recent book bearing this title by Howard Agnew Johnston, president of the Chicago Church Federation, though written with good intent, bears many "Scientific" errors and misconceptions. The most obvious fallacy is concerned with the old problem of Origin of species (pages 55 to 56). In order to eliminate all traces of evolution Johnston advocates the stability of nature. He says (page 55) **"no actual processes of evolution are in evidence,** and no new species are being produced before the eyes of investigators." The truth of this statement depends entirely upon

the definition of "species". On the previous page (54) Johnston presents the following as a definition; "A new species **must show some new character which no ancestor possessed,** and must show that this new character **will breed true in all circumstances of hybridization and persist through continuous transmissions.**" In order to test the stability of "species" by this definition let us consider one of the many mutations of the human race, brachydactylism for example. Rev. Johnston himself might have a child born with stubby fingers, a condition which is transmitted in accordance with the Mendelian Laws of Heredity. Therefore since this is "new character which no ancestor possessed" and since it breeds true, the child is of a different species from his father.

This simply emphasizes the absurdity of attempting to divide the animal and plant kingdoms into arbitrary groups called "species". Regardless of the scientific debates on the subject of what constitutes a species, it must be admitted as is shown on page 70 that new characters are continually arising de nova by mutation and amphimixis (germinal recombinations) and that the animal or plant possessing many different characters from a related group is for scientific convenience, only, classed as a new species. Of course new "species" are not "being produced before the eyes of investigators", but new characters are, and an ensemblage of new characters which as Jordan says will "run the gauntlet of the ages" constitute a new species. **Wherein lies the difference?** Some of the anti-evolutionists seem to think that the term "species" was coined through Divine inspiration and that creation is hinged upon that word. The idea that God created the distinct "species" of mammals, as the wolf, the dog, the horse, the man, etc., is more easily perceived than in case of the lower organisms since the former possess so many more distinguishing characters than do the latter. Of the seventy or more known "species" of tripanosomes (the protozoa which causes sleeping sickness) only a few can be distinguished on morphological

grounds by the use of the highest power of microscope. Since these groups were so arranged by workers who, in the case of many men, were anxious for their names to be connected with a "new species", why should anyone contend that each arose, separately on the "day" of creation. If this be the case one of these so called "species" must have been stored away in some secluded corner of the "vault of creation" for over thirty million years (the time Johnston allows), and to have been released in 1909. Chandler says, "In 1909 there occurred a case of sleeping sickness contracted in Rhodesia in Southeastern Africa occasioned by a distinct and apparently **newly originated** type of trypanosome, as indicated by its sudden appearance and startling rapid spread. This new type of sleeping sickness is more deadly than the older type and there is reason to fear that unless efficient methods of controlling it and stamping it out are discovered it will spread over a large part of tropical Africa. This is only one of the thousands of cases of the origin of new characters (of new "species") which the anti-evolutionists must explain if they ignore evolution.

Johnston (pp 62 etc.), as well as many other anti-evolutionists, while contending that the recently discovered laws of heredity are proofs against evolution failed to mention even the name of DeVries or to make any reference to the numerous volumes which have been written upon the **mutation theory.** Though they claim to be intensely interested in the origin of new characters and thus ultimately of new species, they deal only with the great **factor of perpetuation,** namely **Heredity,** and ignore the factor of **origin-mutations.** They are making much of Bateson's (1921) remark, "varieties of many kinds we daily witness, but **no origin of species.**" Certainly not, no more than one would see a large New York skyscraper bloom into existence before breakfast though he might see the constituent parts added daily. It was this conception that Coulter had in mind when he spoke (see Johnston page 64) of "species" having been observed to originate by evolution "and are now go-

ing through the process." The absurdity of using Bateson as a witness against the facts of evolution because he is investigating some of the causes is obvious when his own recent statement is considered seriously. He says, **"Let us proclaim in precise and unmistakable language that our faith in evolution is unshaken. Every available line of argument converges on this inevitable conclusion."**

In concluding his so-called "Scientific Christian Thinking" on the subject of Evolution and religion, Johnston summarizes ten points against evolution. The first three having to do with Paleontology and Geologic Evolution in general are drawn largely from the publications of Price, who is unknown to the scientific world (see pp 63 to 66). If Price "has spent twenty years in personal investigation of the Geological formation of the Pacific Coast region" as Rev. Johnston (p. 66) contends, his technical monographs should be unearthed and presented to some scientific meeting. By so doing Price might be edged into one of the scientific organizations of America. It has been claimed that "some men achieve greatness while others have greatness thrust upon them". The latter is the case with George McReady Price when Johnston (page 66) not only accepts his word as final in the field of Geology but ranks him as full Professor in the University of Southern California, rather than as an academy teacher of English Literature, Chemistry and Physics (see page 64). Knowing of the crowded schedule of the average high school English teacher, it does not seem possible for Price to have done very extensive Geological survey work throughout the "Pacific Coast region" and the North West, especially in Montana and Alberta". It seems almost hopeless when a man like Rev. Johnston, President Chicago Church Federation, has so little respect for Geologic authority. It probably never occurred to him that in his own city may be found some of the most eminent Geologists of the day who would be willing to set him aright in his so called "Scientific Christian Thinking". **Ministers who ignore the specialists need not**

hope to be of service in furthering the spread of Christianity among such college and university men.

It is rather amusing to find that Johnston (pages 78 and 67 to 70) would have his young people disregard evolution since as he claims, the earth has been in existence only **"about thirty million years"**, that time being insufficient for the various evolutionary changes. This is quite a concession from the old six thousand year conception held by anti-evolutionists of the older school. If the Rev. Johnston will consider the numerous changes which have been wrought in the plant and animal kingdom during the past fifty years, he will come to realize that quite a transformation could take place during his **"thirty million years"** though evolution has been in progress much longer than this.

The thought of Johnson's fourth and fifth points against evolution is to the effect that evolution is false since there is no "spontaneous generation of life" and since struggle for existence is "not the greatest fact to be stressed". Since it has been emphasized elsewhere that **origin is not evolution,** the problem of spontaneous generations does not bear directly upon the subject. However, it has not been established that organic matter does not arise from inorganic matter. It is true as the anti-evolutionists claim, that Spallanzani and Pasteur showed that living organisms are not moulded directly from lifeless material, as the insects from the morning dew, frogs from mud or worms from horse hairs. This is far from contending that complex organic chemical compounds have not been synthetically produced from their component elements. Thus the problem of "spontaneous generation of life" should first be explained and then answered by the psysiological chemist rather than by a popular writer.

Johnston's last two points have to do with the great chasm which **he thinks** exists between the brute instincts and the high mental, moral and religious endowments of man. Since McCann, the blood and thunder Catholic author

of "God or Gorilla", claims this as one of his strongest points against evolution, quotations used by his critic (Teller) should suffice.

"Professor George J. Romanes, regarded as one of the foremost authorities on animal psychology, writes in 'Man and Brute' (North American Review, August, 1884) 'the distinction between human and brute psychology, which has always been taken, more or less, for granted, viz., that the one is rational and the other not, may similarly be set aside, if we understand by 'rational' merely the power of drawing inference from observation. That there is no distinction of this kind to be made between men and animals, I hold to be abundantly proved by the numberless instances of the display of rationality by brutes.'

"It is a matter of common observation," writes Professor Edwin Emerson, 'that members of the better class of dogs, such as Newfoundland and Saint-Bernards, show also other normal qualities: they have a high sense of honor, cannot be bribed, will not steal, etc., and are true to the death as to matters committed to their trust. To deny to such animals the possession of moral qualities seems to be absurd.....

"Any theory in regard to man's place in nature which denies some degree of reason and moral perception to the lower animals is so wide of the facts that it must be a mistaken theory. It places man too high, and assigns to the various tribes of lower animals too low a position in the moral and intellectual scale to agree with observation."

After a life-time study devoted to the observation of animals in their wild and domestic states, William T. Hornaday, the distinguished American Naturalist, remarks very pointedly ("The Minds and Manners of Wild Animals," pp. 219,220):

"The ethics and morals of men and animals are thoroughly comparative and it is only by direct comparisons that they can be analyzed and classified. It is quite possible that there are quite a number of intelligent men and women who are not yet aware of the fact that **wild animals have moral codes, and that on an average they live up to them better than men do to theirs.**

"It is a painful operation to expose the grinning skeletons in the closets of the human family, but in no other way is it possible to hold a mirror up to nature. With all our brightness and all our talents,—real and imitation,—few men ever stop to ask what our horses, dogs and cats think of our follies and our wickedness."

".....After what we recently have seen in Europe and Asia, and on the high seas, let no man speak of a monster in human form as 'a brute'; for so far as moral standing is concerned, some of the animals allegedly 'below man' now are in a position to look down upon him.

"It is a cold and horrid fact that today, all around us, and sometimes close at hand, men are committing a long list of revolting crimes such as even the most debased and cruel beasts of the field

never commit. I refer to wanton wholesale murder, often with torture; assault with violence, robbery in a hundred forms, and a dozen unmentionable crimes invented by degenerate men and widely practiced. If anyone feels that this indictment is too strong; I can cite a few titles that will be quite sufficient for my case.....

"Only two wild animal species known to me—wolves and crocodiles—devour their own kind; but many of the races of men have been cannibals, and some are so today.

"Among free wild animals, the cruel abuse or murder of children by their parents, or by other adults of the tribe, is unknown; but in all the 'civilized' races of men infanticide and child murder are frightfully common crimes. In 1921 a six-year-old Eskimo girl, whose father and mother had been murdered, was strangled by her relatives, because she had no visible means of support.

"The murder of the aged and helpless among wild animals is almost unknown; but among both the savage and the civilized races of men it is quite common. Our old acquaintance, Shcak-Nasty Jim, the Modoc Indian, tomahawked his own mother because she hindered his progress; but many persons in and around New York have done worse than that.

"Civil war between the members of a wild animal species is a thing unknown in the annals of wild-animal history; but among men it is an every-day occurence.

"Among free animals it is against the moral and ethical codes of all species of vertebrates for the strong to bully and oppress the weak; but it is almost everywhere a common rule of action with about ten per cent of the human races.

"The members of a wild animal species are in honor bound not to rob one another, but with 25 per cent of the men of all civilized races, robbery, and the desire to get something for nothing, are ruling passions. No wild animals thus far known and described practice sex crimes; but the less said of the races of men on this subject, the better for our feelings."

Evolution as a "Speculative Philosophy".

To speak of evolution as an "unproven theory" and as a "speculative philosophy" as many anti-evolutionists are doing, is to display one's ignorance of the subject, or of the simple facts of Nature. The presence of fossil remains of plants and animals which are not living at the present time is direct evidence that life on this earth is undergoing constant change. Although the barefoot boys of the hills of the most nonprogressive sections of America carry this direct evidence of evolution in their pockets in the form of crinoid "beads" and "heads" and various fossilized sea-

forms which inhabited the earth long before man appeared, although the shovel of the ditch digger and the pick of the miner unearth direct evidence of evolution, the writers of books, the leaders of men, and the silver-tongued orators loudly proclaim "speculative philosophy". How significant is the Biblical statement that "a little child shall lead them", since the grade children are asking their parents and teachers to explain the existence of fossils in the clay banks of their district, if there has been no evolution.

We are not surprised to find in the Scripture the following instruction: "Go to the ant, observe his ways and be wise", for these wise little creatures bring up direct evidence for evolution in the form of Foraminifera and diatomaceous earth. While speaking of the diatoms of past ages Professor Mann, Professor of Botany, Syracuse University, says: "Their silicious cases or skeletons being indestructible, and their reproduction being amazingly rapid, there have been formed, in regions once covered with lakes or seas, vast fossil-beds of their remains."

If evolution were only a "speculative philosophy" how would the great transformations which are taking place in the plant and animal kingdoms be possible, for the appearance by mutations of new varieties and the recombination of characters is a phases of modern evolution? Therefore the anti-evolutionist may see the results of evolution all about him—in the field, in the garden, in the barnyard. In view of these and many other demonstrated proofs of evolution, what response might be expected from an alert lad who knows of these changes in Nature, who sees from the fossil-bearing rocks of the prehuman age that his own fair state was once a part of the ocean bed, when his Sunday School teacher attempts to picture a changeless earth, an earth that was made in a day, and filled at the beginning with present day forms of life? Yes, Evangelist Conant and others who dramatically proclaim "speculative philosophy" might be of greater service to such warm-blooded American youths if they would only see evolution in nature, ac-

cept the world of God as a book of Inspiration and not as a literal scientific treatise, and thus designate their own materialistic interpretations as "speculative hypotheses". **Then and only then will the Living God of Progress be released to work miracles of progress in the twentieth century; then and only then will the spirit of the vitalistic evolutionists energize, vitalize and spiritualize the every day life of the every day man and woman.**

Method and not Facts of Evolution Debatable.

It should be stated here that the opponents of evolution who cannot understand the language of the technical scientist, hear them in their scientific meeting debating details and think they are challenging the FACTS of evolution. For example when Professor Bateson, Dec. 28, '21, the eminent English Biologist, challenged some of the current views as to the origin of species, the anti-evolutionists thought he was denouncing evolution as a whole (See "Collapse of Evolution" p. 1 by Townsend). It is the **method** and not the **facts** of evolution which the authoritative men of science are discussing. The situation is suggestive of a group of carpenters, masons, painters, and plumbers discussing how a certain building had been constructed. A passer-by who is ignorant of the detailed workings of these trades listens in and immediately proclaims to his friends that the group of efficient tradesmen were debating whether or not the house was in existence. He simply confused **method** and **fact.** So it is with the ignorant listener to scientific debates. Since scientific facts are never accepted on faith some of the world's greatest evolutionists challenge the technical details of the evolutionary facts. This very situation, though sometimes misunderstood, has been the dominating factor in placing evolution on a scientific basis, in the supplanting of "speculative philosophy" with established facts. That splendid old song "Faith of Our Fathers, living still, We will be true to thee till death", may be appropriate in the church but not in scientific circles and ap-

plied to scientific principles—indeed a compliment to scientific progress. Professor Huxley said: "Men of science do not pledge themselves to creeds; they are not bound by articles of any sort; there is not a single belief that it is not a bounden duty with them to hold with a light hand and to part with it cheerfully, the moment it is really proved to be contrary to any fact, great or small". In speaking of his position with reference to Darwinism, Huxley continues: "And if, in course of time, I see good reasons for such a proceeding, I shall have no hesitation in coming before you, and pointing out any change in my opinion without finding the slightest occasion to blush for so doing. So I say that we accept this view (Mr. Darwin's) as we accept any other, so long as it will serve our great purpose—the improvement of Man's estate and the widening of his knowledge. The moment this, or any other conception ceases to be useful for these purposes, away with it to the four winds; we care not what becomes of it!"

This is exactly the attitude of the biologists of today. However, after more than half a century has passed into scientific fact as investigations in every civilized land have supplied unmistakable evidence.

Progressive evolution is universally accepted with those who have made a thorough study of the subject, but many technical details of species transmutations are still debatable. In other words, the **fact** of species change is no longer debatable, but the **method** is not yet clearly understood. Those whose faith is weakened in the **facts** of evolution by this statement may rightly question their own existence because many of the **methods** of embryological development are still not understood.

CHAPTER VIII

"ATHEISM" IN OUR UNIVERSITIES

"To ignore Darwin is not only to ignore modern science; it is to ignore one of the broadest and most helpful minds of the country."—John Burroughs.

Probably the most inappropriate title that could be given to any anti-evolution text appeared in the latter part of 1923. "Atheism in Our Universities" (Fairhurst) presumes to show the dark side of the religious lives of the college and university professors. However, the reader is unable to see little but unsupported statements attacking the college and its constituency. "College curricula," says Fairhurst, "are **not** shaped in the interest of character, but mostly with regard to getting along in the world." He also claims (p. 29) that the knowledge of many alumnae is "unguided by character" and thus only "German culture". Referring to those connected with our educational system he says, "The minds of many are still wallowing in gross materialism . . . . the atheist, the agnostic and the materialist have no rightful claim to a place on a college faculty. **The public does not support state universities for the propagation of atheism.** A godless philosophy aims at the very foundations of Christian civilization. Those in authority are ignorantly bearing with godless teaching in many of the highest institutions. Christian young men and women are being ignorantly subjected to the assaults of a godless philosophy under the name of 'evolution'. **They have neither the ability nor the information to resist the attacks."**

In support of these dogmatic statements the eminent anti-evolutionist refers to "hear-say" stories of which the following are typical: "I WAS TOLD by a young woman there (Ohio State University), who was ready to enter the Senior year, that three-fourths of the professors in that university were atheists, and that the other fourth were

agnostics and Christians. IT WAS ALSO TOLD by a student that the library on evolution contains two or three hundred volumes in favor of the theory and only two or three against it. **This shows that the art of lying has THERE** (Ohio University) **been reduced to a science.**"

Attacks on individual universities are in like manner unsupported regardless of the fact that the volume presumes to be a result of investigation. "I WAS RECENTLY TOLD", says the pessimist, "by a young man who had attended the Missouri State University the last two years that they have a three years course in biology, and that sixty per cent of the students who take the course come out atheists." Any intellectual mind will resent such unwarranted statements, especially when no information is given as to how the said young man conducted his investigation. Similar attacks are made on Leland Stanford University, and the Illinois State University. The critic also sees the need for "a good house-cleaning" in the college Y. M. C. A.

In addition to these "hear-say" stories, the author defends his title, "Atheism in our Universities," by devoting one hundred forty of the two hundred twelve pages to a consideration of the replies to a questionnaire sent to various educators. How these replies from these eminent men would warrant the title is incomprehensible to the present critic. Since only two questions (5 and 6) have the least bearing upon the subject of evolution versus atheism, replies to these only will be considered. These two questions are as follows:

"Is the scientific doctrine of evolution consistent with the miracles commonly attributed to Christ in the New Testament?

"What, in your opinion, has been and what will be the effect of the teaching of evolution in our public schools on the commonly accepted teachings of the New Testament?"

David Starr Jordan expresses his view in the words of Darwin, "Science and religion must each run its course; I

am not responsible if the meeting-point be far away!" He continues, **"One could no more return to the idea of separate creation of species than to the old idea of planets steered through space in the hands of angels."**

Ex-President Hadley of Yale University says that the effect of teaching evolution in our public schools "will be good. **It will compel people to lay more stress on the moral and spiritual elements."**

John J. Coss of Columbia University replies that "many evolutionists would tend to explain the miracles in a naturalistic manner, though the connection between the two is not a necessary one. The religious inspirational side should be stressed rather than the static non-developing conception."

Prof. R. M. Wenley, University of Michigan—"I can not see it (evolution) will have any effect other than the teaching of any scientific method must have. AND THIS DOES NOT AFFECT THE NEW TESTAMENT, **but merely certain theological interpretations of it—about which there seem to be very wide variations of views among theologians themselves."**

Professor Nachtricht, University of Minnesota, insists that when evolution is "properly taught, it should not conflict with the life of Jesus Christ."

Professor A. C. Moore, University of South Carolina, says that evolution "will make students more critical and will make for more careful and exact teaching of the Bible. **Evolution is one** FACT **in a great philosophy of life,** and must be made to fit into that philosophy."

Dr. John F. Bovard of Oregon University says, "The doctrine of evolution is not inconsistent with the miracles commonly attributed to Christ in the New Testament. My opinion is that the teaching of evolution in the public schools is a proper thing to do, just as it is the proper thing to teach any facts that are true. The only safeguard I would care to use would be that **those who teach the doctrine of evolution know what they are teaching about."**

"In a general way I can assure you that the principles

of Darwinism are accepted in the University of Oregon, and **no conflict is found between them and Scriptural teachings.**"—Karl W. Onthank, Sec.

Professor D. B. Casteel, University of Texas, admirably states that **"as a scientific generalization, the doctrine of evolution bears no nceessary relation to miracles.** Without doubt the teaching of evolution in the public schools results in certain amount of mental unrest among thoughtful students. If properly imparted, however, such instruction will not offend, nor will it undermine the foundations of religious belief. In its broader sense, an evolutionary interpretation of nature in no way denies the actuality of a controlling power, and this conception of the method of 'creation' will, if rightly understood **lead to a truer appreciation of the extent of** 'THE OMNISCIENCE AND THE OMNIPOTENCE RESIDENT IN DIVINITY.' "

In reply to the Fairhurst questionnaire, Professor E. G. Conklin, Princeton University, would have his readers reserve a place for both science and the Bible. He says, "Science, rather than evolution, teaches the universality of natural laws. The teachings of the New Testament are chiefly ethical. It is the best code of ethics extant, and **should be taught from this standpoint, rather than as a textbook of science."**

President Lemuel H. Murlin of Boston University expresses his opinion by saying, "I should say that what we commonly call theistic evolution is entirely consistent with the teachings and words of Christ as given in the New Testament."

"I think there is such a thing as a type of theistic evolution which can be held by Christian men. I have known a number of Christian men who were theistic evolutionists, who seemed to find that they could harmonize the doctrine of development with their Christian thinking and Christian experience."—Franklin N. Parker, Dean of Chandler School of Theology, Emory University.

"The essential values of the New Testament are un-

affected by evolution."—President Henry C. King, Oberlin College.

Notably among the few who reply that evolution destroys "the faith of our people in the living God" is the name of W. Brent Greene, Professor of Christian Ethics in Princeton Theological Seminary. Many eminent men concede that **materialistic** evolution is inconsistent with the miracles. However, in practically every case it is concluded that there is no direct relationship between evolution and the miracles, and that vitalistic evolution does in no wise conflict with the teaching of the New Testament.

In view of the fact that Fairhurst discovered that practically all college professors believed in some form of evolution, it seems as though the title of his book was derived through the following false logic:

I. Most college professors believe in evolution.

II. All evolutionists are atheists.

III. **Therefore** most college professors are atheists.

IV. Therefore (as another anti-evolutionist concluded one of his lectures) the American colleges and universities are mills for the grinding out of infidels and atheists.

The fallacy of this logic is obviously based upon the false assumption that there is a conflict between evolution and Christianity.

Misuse of the Questionnaire.

Such fallacious conclusions as the above further justifies the protest of H. L. Clark, published in "Science," November 17, 1922, one year before the appearance of the volume under criticism. He says, "A questionnaire is being mailed to "persons whose addresses are given in the book 'American Men of Science' " to ascertain "what proportion of American men of science are believers in the current religion, what proportion are not," etc. As the questions are in many cases like the famous " 'Will you leave off beating your mother?' " probably the majority of us will ignore them. The bias of the questionnaire is so obvious, it might well be ignored were it not that we shall probably hear be-

fore many months that 97 per cent of American men of science are utterly without religious beliefs, 'as shown by a recent careful investigation.' Hence I wish to make this early protest against this particular questionnaire and the possibility of drawing any reliable conclusions from the replies received."

Literal Genesis a Proof of Christianity?

Aside from the conclusion that our universities and colleges are in the grip of atheistic teachings, the author of "'Atheism' in Our Universities" places himself in a ridiculous position with some of his colleagues who believe in the complete literal interpretation of the Bible. Since many anti-evolutionists insist that the literal interpretation of the first chapter of Genesis is fundamental to the principles of Christianity, Fairhurst places himself on the border line with his so-called "university atheists" by contending (p. 30) that "the days in Genesis" represent "indefinite periods". This only suggests the impossibility of one man determining whether or not the teachings of another are atheistic. It also indicates that our "friendly enemies" should more cautiously criticize the evolutionists for having diverse opinions with reference to the causes of evolution, since the theologians themselves are extremely diverse on Biblical interpretation. **The common conclusion that evolution is not a fact because the evolutionists disagree should be as absurd as the conclusion that the Bible is false because the theologians disagree.**

Miracles versus Evolution.

Many anti-evolutionists contend that "miracles are not possible as a part of the universal process of evolution." (Fairhurst, page 69). Although the present writer concedes that some eminent evolutionists arrive at the same conclusion, he is pleased to call attention to the reasonableness of the view of Professor D. B. Casteel of the Texas University in his reply to the Fairhurst questionnaire on

this point. "As a scientific generalization, the doctrine of evolution bears no necessary relation to miracles." Would the changing of water into wine be less miraculous had that particular species of grape of Palestine been derived from other forms by evolutionary development rather than having been created as such, or would it be more impossible for Jonah to have remained in the whale had the whale been originated through evolutionary processes rather than having been placed on the earth by a special creative act? These considerations should suggest that the **controversy over the truth or fallacy of miracles should not enter into the evolution versus religion discussions.**

Evolution a Fashion?

Fairhurst concedes the almost universal belief in evolution by the college and university people, but claims that these people are only following the "fashion" or "fad" of the day. He compares (page 24) the scientist to the Chinese who practiced foot-binding because it was the custom. In these days of modernism, he claims, we must believe in evolution because it is modern, for **the educated world "Prefers 'error' to being considered 'out-of-date".** Since our writer concedes that the adherents to the evolutionary idea are found principally with the educated classes (men and women who represent the maximum development of our present civilization) he is charging this class with superficiality. Is it not paradoxical to claim that the scientific investigators and other learned men and women of the present enlightened age are swayed by **fads** rather than being guided by reason and judgment? This would imply that we should step aside and permit the illiterate to direct our thoughts and actions in the realms of science, politics and religion.

In like manner the non-scientific classes are scored (page 25) for giving ear to the technical research worker rather than for investigating for themselves. Aside from the impossibility of such procedure, one might call atten-

tion to the absurdity of the same practice in other fields of science. Am I to disbelieve in the atomic theory solely because I have not investigated the technical field of physics and chemistry, or the various startling findings of the astronomer because I have not chanced to spend years in the Lowell astronomical laboratory? Even though first hand information is desirable, **authority must be recognized as the human mind is incapable of a mastery of the technicalities of all knowledge.** I would therefore urge upon those who might be influenced by the writings of Fairhurst the reasonableness of recognizing that those who have not chanced to be experts in the technical fields of evolution should be guided by the findings of original investigators the same as is the case in other fields of learning.

"How would it impair our faith to believe that God normally works by evolution rather than revolution, that he works rationally, slowly and surely, rather than suddenly and arbitrarily? Instead of losing, **would not religion immensely gain from this conception?** . . . . . If any adequate explanation is to be given of this wonderful plan of development observable throughout the universe **it requires God not only for its origin but also in the whole process from start to finish.**"

By **Sherwood Eddy,** "Facing the Crisis"
Association Press, New York, 1922.

CHAPTER IX

SIMILARITY OF STRUCTURE AS AN EVIDENCE OF ANIMAL RELATIONSHIPS OR OF "DESIGN"?

"The moral principle inherent in evolution is that nothing can be gained in this world without an effort; the ethical principle inherent in evolution is the evidence of beauty, of order, and of DESIGN in the daily myriad of miracles to which we owe our existence."—Henry Fairfield Osborn, Curator, American Museum of Natural History.

Evidences for Evolution.

The various anti-evolution writers claim to have swept away the entire mass of evidences which support evolutionary facts. This destructive process would be considered more difficult would the critics only spend sufficient time to acquaint themselves with the details of the various lines of evidence favoring evolution. In too many instances the non-scientific opponents of evolution, not being able to understand the full significance of technical facts, confine their reading to elementary or semi-popular works. This is indeed an injustice to scientific truth as the technical facts are rendered more incoherent and thus less conclusive by the omission of details. It should be evident therefore that **the opponents of evolution should not speak on the subject unless they have made a very exhaustive study.** However, many facts of evolution are so obvious that they would seem almost axiomatic. For example the author would ask how was it possible for all of the various races of men, white, black, brown, red, yellow, etc., to have been descended from Noah, as the anti-evolutionists believe, without an evolutionary process?

Professor Curtis in his most excellent book, "Science and Human Affairs", outlines the more important evidences for organic evolution as follows:

1. Evidence from Structure is derived from:
   Comparative Anatomy, Comparative Embryology, Classification.

2. Evidence from Distribution, past and present, is derived from:
   Paleontology, Geographical distribution.

3. Evidence from Physiology is derived from:
   Fundamental Resemblances in Vital Processes, Specific Chemical Resemblance of closely related forms, e. g., Blood tests.

4. Evidence from Experimentation rests upon:
   Unconscious Experimentation upon animals and plants since their domestication, Conscious Experimentation of Breeders and of Scientific Investigations.

Although all of the above evidences will not be considered in this chapter, the above outline should emphasize the fact that evolution as taught in the American Colleges today covers a broad range of subjects, **even extending into the fields, of plant, animal, and human improvement.**

Comparative Anatomy.

It is a well known fact that the general structure of the monkey-like animals, the chimpanzee, gorilla, and orang-utan, is quite comparable to that of man, this justifying the zoologist in his classification of man and the anthropoids in a single class—the Primates. The striking difference between the Anthropoids and man is in the fact that the former has shorter legs, longer arms, more protruding face and more hair than the latter. However, extreme variants may be found in the human race, in which we find types of man much like the anthropoids or lower primates. Most any one who frequents the side shows have seen "The hairy man" and "The dog-face man". Furthermore, a study of the internal organs reveal the same striking similitude. Should these facts stand alone without any further support one would at least wonder as to the cause of the homologies. However, the obvious resemblance between man and the other more upright walking animals is only one link in the long chain of homologies which bind all life into one great family. **"Those forms which are closely related are built on the same plan,** and the closer the

relationship the closer is the resemblance. All of the animals in the same phylum have a general resemblance to each other, and those in the same class or order are still more alike, and those in the same genus or species are very much alike." (Atwood).

After considering this evidence for evolution more in detail in another work* the author concluded as follows:

"In like manner the limbs of various animals are quite comparable to those of man. The same general advance in the animal scale is shown by this comparison. It is of moment to note that the difference in size and shape of the bones are accompanied by a corresponding difference in the life habits of the individual, or vice versa, as the case may be; however, the homologous bones remain more or less similar regardless of the adaptation to changed, environment and habits. Although some use their limbs for burrowing, others for flying, still others for swimming, running, or grasping, they all possess a single bone in the upper "arm", the humerus; two in the lower arm, the radius and ulna; a mass of small bones forming the wrist, the carpals; the long bones of the hand, the meta-carpals; and lastly the bones of the "fingers," the phalanges. Such domestic animals as the horse and the cow may seem to be marked exceptions to this rule but an examination will reveal the fact that four "fingers" of the former and three of the latter have degenerated more or less completely.

"The above comparisons might be carried on to the other organs of the body and remain equally as striking. The muscular, digestive, excretory, circulatory, and nervous systems, as well as the organs of the special senses of man, exhibit many elements in common with those of the lower animals. Since the author has heard so much contention from the masses, as well as from college trained people not versed in biology, to the effect that evolution applies to animals only and not to man, he cannot refrain from calling attention to the absurdity of this belief, knowing, as he does, the revelations of comparative anatomy. What must be the state of mind of any individual who would contend that the brains and the limbs of the animals represent evolutionary relationship, but that those of man typify a separate creation, having no relation to the

* The Laws of Life, Published in 1922 by Richard G. Badger, Boston.

former group." The absurdity of such an assumption is apparent if a comparative study is made of the brains of the higher mammals including man.

Comparative Embryology.

One of the most remarkable facts associated with embryological development is that each and every individual, whether it be a fish, a bird, a dog, or a man, passes through many life stages of the forms below them. They all existed once as a single cell, thence by division multicellular "organisms." From these facts there has been formulated the **Recapitulation Law** which in technical language is as follows: **"Ontogeny is a brief recapitulation of Phylogeny"**, that is, the life of the individual is a brief living over of the life of the race.

The recapitulation law is based almost entirely upon the facts of embryology. And thus must be given recognition. Even an elementary course in this subject will convince one that **without the evolutionary conceptions these strange facts are meaningless.** In order to introduce to the reader a recent volume which is outstanding for its clearness in presenting the various evidences for evolution, the author is pleased to quote: "The Theory of Evolution" by Scott.—MacMillan.)

"At a certain stage of the ontogeny the embryo of a mammal has gill-pouches like a fish, the skeletal supports of the gill-pouches, the arteries and veins which supply them with blood, the structure of the heart, in short, the entire plan of the circulatory system is fish-like. At a later stage most of the gill-pouches have been obliterated, but one is retained and converted into the Eustachian canal, which connects the throat with the middle ear, inside of the eardrum. Similarly, the embryological evidence shows that the lungs of air-breathers have been derived from the swim-bladder of fishes, a conclusion which had already been reached by comparative anatomy, for in a remarkable group, known as the Dipnoi or lung-fishes, the air-bladder is utilized for purposes of respiration.

"It has been objected that, while embryology may prove relationship within a single type, it fails to demonstrate any connection between different types, but this is not altogether true. The

Tunicata, a curious group of marine animals once referred to as the Mollusca, are shown by their ontogeny to be related to the vertebrates and the same is true of certain marine worms, (Balanoglossus). Indeed, most modern zoologists have adopted a scheme of classification in which the type Chordata includes not only the true vertebrates, but also the Lancelet (Amphioxus), the tunicates and Balanoglossus: this scheme is founded upon the embryological evidence. Among the invertebrates even more remarkable examples have been observed. Such radically different types as the segmented worms and the shellfish (Mollusca) are brought into relationship by their ontogeny and their closely similar types of larvae, as are also, though less distinctly, the brachiopods, or lampshells, and the Bryozoa. The Horseshoe-crab, or King-crab, so abundant along our Atlantic coast, was long of uncertain affinities; originally referred to the Crustacea, largely because of its marine habits of life, embryology makes much more probable its relationship to the air-breathing scorpions and spiders."

After discussing various objections to certain technical phases of the embryological evidences for evolution, Professor Scott says, "Many other equally vigorous and well-deserved criticisms of the embryological method might be cited, but it should be emphasized that these criticisms are all directed against the application of the method to the solution of definite and concrete problems of descent and relationship. **None of them denies and many strongly affirm that embryology affords some of the strongest and most convincing evidence in favor of the evolutionary theory."**

Vestigial Structure.

The students of comparative embryology and comparative anatomy are continually finding rudiments of organs which appeared while the individual was in an embryonic condition or whose counterpart may be found functional in the adults of lower animals. For a more logical presentation of this and related subjects the reader should consult the author's recent book, "The Laws of Life".

"A further evidence for the above conclusion (that man as a race has passed through the typical stages of animal life below him) is shown very graphically by the presence of rudimentary or vestigial organs in man's body—the vermiform appendix, perhaps, being

the best known of these organs. In addition to the appendix, there are many other vestigial structures in our bodies that point back to our pre-human ancestry. The human tail, for example, never entirely disappears but remains in adult life as a posterior projection of the spinal column. Many instances have been reported in which the tail remained quite conspicuous throughout adult life.

"The ear should also be classed as a pre-human relic. In the lower animals, the muscles of the ear are still active and can move the shell (pinna) in order to reflect the sound waves into the interior. With man, however, these muscles are so degenerate that the ear cannot be moved and thus it has practically lost its function. In cases where the outer ear has been removed, it has been found that the sense of hearing was scarcely, if at all, affected. Could it not also be concluded that the hairs on the human body are a useless legacy handed down to us by our remote ancestory?

"Among the many other interesting vestigial organs, the pineal body should have special mention. This is a rudimentary organ somewhat larger than a pea located near the center of the brain. As we trace this body through the various animals down the scale, we find it becoming more and more conspicuous, until in many reptiles, notably the New Zealand three-eyed lizard, it approaches a normal eye. Examination of the extinct forms of animals indicates that this third eye, which every human possesses in a rudimentary fashion, surely functioned as an organ of sight. Is it not possible that the mythological stories of the three-eyed monsters and of the giants with an eye in their foreheads had their origin based upon a real middle eye? McCabe aptly concludes that: 'The vestigial structures must be interpreted as we interpret the buttons on the back of a man's coat. **They are useless reminiscences of an age in which they were useful.**' "

The Evidence of "Design".

The anti-evolutionists agree with the evolutionists that the structure of man and animals are quite comparable. However, they claim to differ as to the cause of this striking similitude. Patterson summarizes their position thus:

"It is well known that the internal and external form of man is like that of the lower animals. **This, evolution claims, is an argument for genetic connection.** The same argument would prove that a locomotive was born from a

stage coach, and that from a cart, and that from a wheelbarrow. Similarity of structure proves only uniformity of design. An intelligent maker of any nature would so operate, and man himself so manufactures now. Why should not God make man **on the model of the lower animals,** seeing he is to live in the same world, under the same conditions, eat the same food and propagate in the same way? There is no reason for departure from a form which has proved useful and appropriate. **All the parts in the human form have been thus tested in the lower forms and found right for their purpose and now, as we would expect, applied to man.** Man is the climax of all. All is for his use in the lower worlds of plants and animals; then why not use their frame and inner organs also? **The mechanic uses the same appliance such as the wheel in his most complex construction as well as in the simplest engine"** (The Other Side of Evolution, (p. 65, 66).

It is hoped that some of Reverend Patterson's readers can grasp the significance of the stage coach-cart-wheelbarrow comparison. However, the author is unable to understand how by the application of the recapitulation law an embryo cart could have passed through the wheelbarrow stage. It might furthermore be asked if Reverend Patterson's cart possesses vestigial structures. Although this illustration is of little significance it only serve to show the ridiculousness of the arguments of another anti-evolutionist.

The argument that "similarity of structure proves only **uniformity of design"** is having a far-reaching effect. Philip Mauro in his strange little volume, "Evolution at the Bar" is one of the most recent champions of the "Trial and Error" God philosophy. He says, (p. 20) "Resemblances are to be expected in the works of an all-wise Creator. For when He has **devised a contrivance, as a backbone, to serve a certain purpose, He would inevitably use the same device in whatever place that purpose was to be served,** with only such modifications and adaptations as

the varying needs of individual species might require." Townsend in "Collapse of Evolution" (p. 19) says, "The fins of fishes, the wings and feet of birds and the fore and hind feet of brutes created before man, are prophetic or anticipatory of the arms and feet of man."

Numerous writers and speakers are attempting (and succeeding in many instances) to convince their audiences that it is much more in keeping with the sanctity of the Church to believe that these biological facts rague for "the existence of a Designer and Ordainer" rather than for genetic relationship, **erroneously implying, of course, that the one would exclude the other.** Graebner (1922), for example, devotes an entire chapter to the consideration of "Evidences of Design", in which evolution is pictured as a game of chance and contrary to God's wonderful "orderly arrangement" and "most evident design". Many times he suggests that certain biological facts "argue most powerfully **not for accidental arrangement but for plan.**" Again he says, "let us note how little necessity there is for assuming that by **mere chance** things have come to be what they are . . . . The point is that there is **not chance,** but orderly arrangement, symmetrical shape, in a word, most evident design" ("Evolution", p. 126).

To one versed in the various laws of Genetics and Heredity in general, wherein "chance" would be an absurdity, the above contentions, namely, that evolution is founded upon "chance", is a display of gross ignorance of the simplest biological principles. What type of intellectual progress can be expected when mature men, old men, are so dogmatic as to ignore the mass of simple information regarding Mendelism and contend that evolution is a "chance". No more ridiculous situation can be imagined. **Evolution simply means that the entire universe and all things in it are being GROWN and not manufactured, or snapped into existence. It teaches that the plants, animals, and human beings are growing by a systematic process of development from the simple to the more complex and not being pro-**

duced suddenly and dramatically as a conjuror draws a kitten from a steaming kettle.

Wherein would this systematic process of development proclaimed by the evolutionists eliminate the **"Design"** taught by the theologian? The evolutionist does not object to "design" but contends that the Designer has and is **now** working in a constructive way—He is the "Living God of Progress".

Earlier Views of Evolution.

The conception that evolution connotes the absence of a system was held fifty years ago. Morris* in his voluminous treatise against Darwinism voices the sentiments of the anti-evolutionists of his time as follows:

"If the theory of Development be true, and the earth has been peopled with all its varieties of living creatures by 'fortuitous variations', we ought to discover in Nature nothing like a general PLAN, nothing like a SYSTEM of animal types, nothing like SYMMETRY or organization, nothing like ORDER as to age, strength or stature —for plan, system, symmetry and order cannot proceed from accident or fortuity."

"If fortuity, and not Intelligence has been the moulding divinity of animated nature, we might reasonably expect to meet in living creatures with all manner of excesses and deficiencies, all kinds of misplaced and mispaired members—some with fewer limbs than they needed, and some with more than they could use; some with legs on one side twice the length of those on the other; some with eyes implanted in the back of their heads instead of the front; birds with a wing on one side and claw on the other; sheep clothed in the bristles of hogs and hogs warbling the songs of Nightingales; hands encased in hoofs, and feet divided into fingers; fingers without joints, and legs without bones—and ten thousand other similar and dissimilar malformations." (See Illustration).

Morris understood that evolution was a mere game of chance and thus contrary to God's uniformally designed

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* "Present Conflict of Science and Religion"—Herbert W. Morris, A. M. 1875.

The early anti-evolutionists, failing to understand the theory which they opposed, claimed that should evolution be true the strange "freaks" of nature shown in this picture would be common all about us. Even though fifty years have passed since this illustration was made, thousands of supposedly enlightened men and women still hold erroneous views relative to the facts of evolutionary development and the teachings of the evolutionists. (See Page 98.)

plan. Thus, we see that from the earliest days of evolutionary teachings the opponents have misunderstood the real significance of the theory of development—have prematurely concluded that such biological teaching was contradictory to the teaching of the church.

Materialism of the Anti-evolutionists.

Although the evolutionists are too absorbed in their technicalities to spend much time discussing theological subjects, time and time again they might become impatient with the **materialism and anthropomorphism of the anti-evolutionists.** What a paradoxical situation! One would expect the scientists to be the materialist rather than the ministers who are writing against evolution. In the various anti-evolution books, and lectures, God is again and again pictured as a "mechanic", working by the "trial and error" method.

It is shamefully claimed by Patterson that God experimented with the lower animals, part by part, and finally assembled sufficient knowledge to make a man. Note that he says, **"All parts in the human form have been thus tested in the lower forms and found right for their purpose and ARE NOW, as we would expect, applied to man".** It is rather strange then that the anti-evolutionists would have God, after such an elaborate system of experimentation, start again with mud. Such gross materialism might be accepted by a few who are misinforming the people, but certainly will not be tolerated by the evolutionist. **THE LIVING GOD OF PROGRESS CANNOT BE INSULTED THUS.**

CHAPTER X.

HUMAN DEVOLUTION OR HUMAN EVOLUTION

"Stir in the dark of the stars unborn that desire
Only the thrill of a wild dumb force set free,
Yearn of the burning heart of the world on fire
For life and birth and battle and wind and sea,
Groping of life after love till the spirit aspire,
Into Divinity ever transmuting the clod,
Higher and higher and higher and higher and higher,
Out of the Nothingness, world without end unto God."
—Richard Hovey.

Progress in Corruption.

Since the theological doctrine relative to the "Fall of Man" seems, to many, in direct opposition to the principles of progressive evolution, the author, at the risk of severe criticism, will refer to the hopeless interpretation of the Anti-evolutionist. Conant in his book, "The Church, the Schools and Evolution" (pp. 26-29), pictures the position of many of his colleagues as follows:

"The Word of God says that man has gone down from a condition of such sinful enmity against God, that he is not only not subject to the law of God, but is **utterly incapable of bringing himself into subjection to it.** And the experience of every Christian gives sorrowful but certain evidence to that fact.

"This means that the only progress possible to man in his natural state, is **progress in corruption** . . .

"But the corruption of spiritual death worked until man was so far down in the **filth of his moral putrefaction** . . . .

"Even in his worship, man's progress is steadily **downward.** Beginning with God, he progresses **downward** until he is **worshipping birds, then beasts, and then creeping things.**

"BUT EVOLUTION SAYS THAT MAN IS COMING UP FROM PRIMITIVE CONDITIONS INTO FULLER LIFE. And so **the evolutionist cannot tolerate such doctrines** as these which the Word of God sets forth. **TO A**

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CONSISTENT EVOLUTIONIST, MAN IS NOT SPIRITUALLY DEAD, for that would make progress out of the question. And if progress is denied—if the only progress possible to the Natural man is progress in corruption, then the whole doctrine of evolution is gone".

Evolution Permits Man's Upward Progress.

At the risk of being classed as a heretic, blasphemer, higher critic, or an atheist, (although we find that many critics placed Christ, Socrates, Luther, Wesley, and the Pilgrim Fathers in these classes), the author would call attention to the hopeless condition portrayed by this interpretation of the Scriptures. Yes, for once the writer must agree with Conant that at least one **"evolutionist cannot tolerate such a doctrine"**, and furthermore cannot think of an Omnipotent Power, a Living God of Progress as creating a race of intelligent beings, and then denying them "progress upward". How beautifully did Reverend Conant picture the position of the author when he said, "EVOLUTION SAYS THAT MAN IS COMING UP FROM A PRIMITIVE CONDITION INTO A FULLER LIFE". If the reverse is the doctrine taught by the theological opponents of evolution, one can better understand the position of a certain scientist when he answered Professor Price's (Sunday School Times, Nov. 4, 1922) criticism by saying, "I don't think many scientists are atheists. I don't see how they can be. But **if I had to choose between your kind of a God and atheism, I'D CHOOSE ATHEISM . . .**"

After considering the various practical benefits of Darwinism, the eminent Professor J. Arthur Thompson, in 1923, says: "As great a contribution as the intellectual and practical ones that Darwin made to the world, was an **ethical** one. Until Darwin's time the "Descent of Man" was the prevailing doctrine. Everywhere people believed that once upon a time man was perfect or nearly so. Adam and Eve

in the Garden of Eden went to the bad, and ever since things had been getting steadily worse. Through hard work man had succeeded in clinging to some of his former virtues, but on the whole, it was a hopeless business.

"Into this darkness Darwin brought new hope, for his teaching was the "ASCENT OF MAN." He showed that man is growing better, that he has evolved from lower forms and therefore, there is the happy prospect of improvement in the future. **Darwin, indeed, opened a gate and let in a flood of light."**

The devolutionary interpretation of the Bible will drive intellectual men and women of America out of the Church, when they can see progress all about them, see the possibilities of a better race if mankind will only obey the laws of nature and nature's God. How amusing it is to hear a minister, after exhorting his audience to accept the "fuller life", to conclude by informing them that the only progress open to them is **"progress in corruption". Such philosophy has no place for the science of Eugenics or even Euthenics To the adherents of such doctrines, Social Reform and Racial Uplift are a mockery.** Indeed, if the Bible teaches that man can progress **only downward,** the upward climb into a **"fuller life" being an impossibility, what need have we for** laws or even for social and moral codes? Contrast this, if you will, with the teachings of the evolutionists, as conceded by one of their opponents who considers them as atheists, namely that **man is coming upward into a "fuller life".** We are not suprised to find the American college students shocking their pastors by telling them that **a knowledge of evolution is a vital asset to their Christian faith** when the teachings of Conant and others, relative to the Fall of Man, are placed along by the side of those of the evolutionists. Leonard Darwin, a son of the theological bullet-ridden Charles, proclaimed (Oct. 7, 1921), that **"this belief gives rise to a** NEW HOPE **that this** UPWARD MARCH **of mankind might be continued in the future." We are now more interested in the future of mankind than in his past. Man's**

future "ascension" and not his past "fall" is the vital issue of the present and future.

It is shown in the following pages that one can believe in the Fall of Man without wallowing in the "filth of his moral putrefaction", or without "progressing in corruption"—that the Living God of Progress indeed leads one into this **"fuller life".**

The Fall of Man—By Reverend P. W. Beck*

I believe in the Biblical account of the Fall of Man. I believe in evolution. Evolution sees man emerging, ascending from dark and mysterious ages past, coming up through all conditions of physical, moral, mental and spiritual life, slowly but surely climbing with his face uplifted toward his Maker like the flower bending toward the morning sun. The consciousness of his importance in the order of things is firmly seated within him and gradually there is unfolding before him a vision of his divine calling and election. Evolution of the physical body of man begins at the beginning and, through the observation of it, scientists make an effort to understand how a complex organism was brought to the place where it could be the seat of a person made in the "Image of God". The processes, stages of development, and various conditions through which the original single cell of protoplasm passes, in its self multiplication until the most highly developed organism is reached, constitute biological evolution.

Into this body, for which evolution has established the most probable parentage, God one day "breathes" his spirit and man is born. How did he breathe? I do not know, except that it was in the same manner that he breathes genius into some bodies today. I cannot understand how he makes some men of such great mental and spiritual discernment while others are forced to grope in the darkness in simple vegetative existence.

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* Student Pastor—Southwestern College.

Neither can it be said **when** he breathed and man became a living soul. Neither am I able to say **when I** became a living soul. It may have been at or before my conception—at my birth—or some months or even years after I was born. **No philosopher, religionist or scientist has been able to solve this mystery.** Evolution says that, when that transaction took place, man became a dual person; he became **the image of God in a house of "clay".** When this plane is reached, there is presented to man a real problem. There is a very strong pull heavenward, through his soul which is made for heaven, and likewise a very strong pull toward the earth, through his flesh which is of the earth. His soul is hearing the call of the divine and undertaking to answer, but his body is loaded with the weight of sin. He has filled it with animal passions, lusts, instincts, and desires, which are all relics of animal-hood and were not evil in the animal state, but now that he has become a man, has had opened up to him the ways of God, these ways of the animal are evil and keep him from realizing his desires in God. This warfare between flesh and spirit is every man's problem. It is described in many classic ways by many people. St. Paul, in writing to the Romans, described this phenomenon. Beginning with the seventh verse of the seventh Chapter, he tells how sin originated. There was no sin until the law came, telling of a better way. Then he tells of the war between the flesh and spirit; how, when the flesh conquered, he fell and died; how he was sold under sin through the flesh; and at some length and very graphically describes the predicament of man torn between his two selves. This again is every man's experience. With the exception of Jesus Christ, the fall has been universal, so far as we have been able to find out, in that all too often the flesh has won and man has fallen, and the vision and image of God are lost in the impurities and evils of a low animal life. Many a man in despair has cried with Paul, Romans 7:24, "O wretched man that I am, who shall deliver me from the body of this death?" The answer came from

God to Paul as it comes to all men, "I thank God through Jesus Christ". Jesus came to break the bands asunder and to release the captives. By his spirit he comes into men's lives first to get them to forget and leave off their sins, and by spiritual power to overcome the low fleshly desires. He comes to get men to see that they were made for God—and God's they may become. Divine forgiveness seems to me to be the effort of God to get man to merely forget the sin which does "so easily beset" him. "Forgetting those things which are behind and looking toward those things which are before, I press toward the mark for the prize of the high calling of God in Christ Jesus." Every life, which sows to the flesh is lost; while every life, which sows to the spirit, is saved. "He that soweth to his flesh shall of the flesh reap corruption, but he that soweth to the spirit shall of the spirit reap life everlasting". Gal. 6:8.

Biology comes forward to reveal to us God's law for the salvation of the flesh of man. Gradually, one by one, the evil instincts and impediments are to be eliminated, allowing the spirit of man to rise to greater heights. MAN IS AN IMMORTAL SOUL OF GOD, undertaking to express himself through the medium of human flesh. Two things are essential to that expression; a spiritual vision and an efficient machine—body. If he had hands less prone to idleness and feet less liable to lead him into the paths of darkness; a mind less ruled by passion, hate, and fear, and less clouded by doubt and superstition, he should be the better able to give the more perfect demonstration of his spiritual vision of God. **Biology is revealing God's way of producing the perfect physical machine.**

This is Evolution's answer to the argument for the Fall of Man. Every man is born in sin, in that he bears in his body the sins of his fathers to the "third and fourth" and many more generations. The fall is not necessary in every man's life, as was demonstrated by Christ, but it is quite probable that such will occur in every life, at least, until that time when the spirits of men shall be masters of their

flesh, or until a physical machine shall have been developed which will be conducive to spiritual life, and man shall fall no more.

Does evolution deny the fall of man? Most assuredly no. It establishes it and explains its occurence, not in one man's life alone, but in every man's life. The doctrine of man's tendency to sin through the sin of his fathers, finds its greatest support in Biology. **Man's need of a savior from sin and God's provision of that savior cannot be more clearly demonstrated than in evolution.** The teachings, life, and spirit of Christ are operating in the souls of man—continually lifting, inspiring, and building that super-structure. **The laws of eugenics are operating in the physical organism to the exclusion of its lowest tendencies. These are God's provisions for the salvation from the fall.**

"Evolution means outrolling, unfolding. It means a reasonable, satisfying, ennobling conception of life, A CONCEPTION THAT GIVES LIFE INFINITE PROMISE. The great plan of life has been slowly and continuously unrolled. The great possibilities of life have been steadily unfolded. And THIS UNROLLING AND UNFOLDING IS EVOLUTION." ("Evolution," 1924, by Vernon Kellogg.)

CHAPTER XI.

EVOLUTION HAS NOT COLLAPSED

"I do not know of a single living biologist of high repute who does not believe in evolution as a proved part of scientific knowledge."—Vernon Kellogg in "The New Republic," April 11, 1923.

A Statement by the American Association for the Advancement of Science on the Present Scientific Status in Regard to the Theory of Evolution.

"**Inasmuch** as the attempt has been made in several states to prohibit in tax-supported institutions the teaching of evolution as applied to man, and

"Since it has been asserted that there is not a fact in the universe in support of this theory, that it is a 'mere guess' which leading scientists are now abandoning, and that even the American Association for the Advancement of Science at its last meeting in Toronto, Canada, approved this revolt, against evolution, and

"**Inasmuch** as such statements have been given wide publicity through the press and are misleading public opinion on this subject,

"**Therefore,** the council of the American Association for the Advancement of Science has thought it advisable to take formal action upon this matter, in order that there may be no ground for misunderstanding of the attitude of the association, whcih is **one of the largest scientific bodies in the world, with a membership of more than 11,000 (now 13,000) persons, including the American authorities in all branches of science.** The following statements represent the position of the council with regard to the theory of evolution.

"(1) The council of the association affirms that, so far as the scientific evidences of the evolution of plants and animals and man are concerned, there is no ground whatever

for the assertion that these evidences constitute a 'mere guess'. No scientific generalization is more strongly supported by thoroughly tested evidences than is that of organic evolution.

"(2) The council of the association affirms that the evidences in favor of the evolution of man are sufficient to convince every scientist of note in the world, and that these evidences are increasing in number and importance every year.

"(3) The council of the association also affirms that the theory of evolution is one of the most potent of the great influences for good progress of knowledge, it has fostered unprejudiced inquiry, and it has served as an invaluable aid in humanity's search for truth in many fields.

"(4) The council of the association is convinced that any legislation attempting to limit the teaching of any scientific doctrine so well established and so widely accepted by specialists as is the doctrine of evolution, would be a profound mistake, which could not fail to injure and retard the advancement of knowledge and of human welfare by denying the freedom of teaching and inquiry which is essential to all progress."—Science, Jan. 26, 1923.

The False Claims of the Anti-Evolutionist.

The contention of the various anti-evolutionists, that the American men of science are gradually abandoning the theory of evolution, is amusing. In view of the present resolution how can this be honestly claimed? Townsend's booklet "Collapse of Evolution" illustrates the point in hand. In 1904 he claimed that evolution had "collapsed" but **nineteen years later** republished the same volume which contains a chapter entitled "**Recent** Statements of Evolutionists". If they were recent in 1904 how could they be **recent** in 1923? The only **recent** biologist mentioned was Bateson and in this case statements relative to the technical controversy over the origin of species was the only possible objection to evolution (See page 69 and 80). Bateson has

attacked some of the current conceptions of the **Method** of evolution but his belief in the **Facts** is evident from the following statement; **"Let us proclaim in precise and unmistakable language that our faith in Evolution is Unshaken. EVERY AVAILABLE LINE OF ARGUMENT CONVERGES ON THIS INEVITABLE CONCLUSION."** (Bateson, the eminent English Biologist whom the Anti-evolutionists claim has denounced evolution).

George MacReady Price, the teacher of "Upside Down Geology" (See page 63), has received hearty applause from the anti-evolutionists for his attacks upon the Council of the American Association for the Advancement of Science for the "fallacies" which he (Price) **thinks** are embodied in the resolutions quoted above. His dramatic articles which are usually accompanied with strange and in many cases crude cartoons, center about four so-called "men of straw".

I. He says (Signs of the Times, March 27, 1923) "These resolutions show that the framers of these pronouncements had been stampeded into making statements **quite unworthy of so dignified a body.**

"They preface their formal actions with the amazing statement: 'Since it has been asserted that there is **not a fact in the universe in support** of this theory, etc. By whom has such a wild statement been 'asserted'? **Certainly not by any well-informed and responsible man."** In defense of the framers of the above resolution the author is pleased to quote the following: **"There is not one fact in nature that supports the Darwinian hypothesis. All the facts of nature are against it."**—William Jennings Bryan, "The Bible and It's Enemies", page 20. Since Mr. Bryan is the leader of the great anti-evolution school it seems unfair for one of his loyal supporters to conclude that he is not "well-informed" and is "not" a "responsible man". (See also Statement by Rev. Conant, Chapter X, page 100). The admission becomes more complicated when Price places himself in the class with the "mis-informed" and "irresponsible". In a one-sentence paragraph at the conclusion of a dramatic

article in "The Dearborn Independent" (See page 67), he says: "And in view of all this, there does not seem to be **anything** solid on which to build any broad scheme of organic evolution". Is this not the substance of the statement that Price is challenging? According to Price's analysis the resolution of the Minnesota Anti-Evolution Ministers(see Chapter I) would practically place them with the "not well-informed" and "non-reliable".

II. Price furthermore seems greatly agitated because the framers of the above resolution state that the Anti-evolutionists contend "that the evolution theory is a 'mere guess' ". It seems impossible for a man like Price to make such fallacious charges when the outstanding battle cry of the Anti-evolutionist is "mere guess" and "speculative philosophy". The reader is asked to reconsider this subject as presented in Chapter VII.

III. In attacking Henry Fairfield Osborn, Edwin Grant Conklin and Charles Davenport, the framers of the above resolution, Price (Signs of the Times, March 27, 1923, page 13) refers to the "professional scientists" who **"repudiate the whole theory of organic evolution."** However, the only two names mentioned were Scott and Bateson both of whom debate only the **Method** and not the **Fact** of evolution. As strange as it may seem this is admitted by Price himself (Column 3, line 9). This misunderstanding is discussed in various sections of this book.

IV. Lastly, Price condemns the above resolution because it protests against Anti-evolution legislation. The opinion of the following men should be weighed against that of Price.

Men of Judgment and Reason Register Protest against Anti-evolution Legislation.

While emotionalism was running rampant among the Kentucky legislators and ministers of good intention, the following words of protest were received from men of unquestioned reason and judgment:

"Should regard bill such as you suggest certain to make Kentucky the laughing stock of the world. To prohibit the scientific teaching of the facts of evolution would involve adopting intellectual attitude of the twelfth century. **It is a proposition which could not be seriously entertained by any really intelligent person".** James R. Angell, President of Yale University.

"In the name of two hundred and fifty colleges and universities located in forty-two states we pray Kentucky will not commit intellectual suicide by prohibiting the teaching of evolution or the use of books favoring evolution." Robert L. Kelly, Executive Secretary, Association of American Colleges, New York.

"Cannot believe that any American legislature can be induced to prohibit the teaching in public schools of evolution or of any scientific hypothesis of proven value." Charles W. Elliot, President Emeritus of Harvard University.

"I take it for granted that the introducer of the bill is in close communion with the rulers of Soviet Russia, since he is faithfully reproducing one of their fundamental policies. Truly, we are getting on." Nicholas Murray Butler, President of Columbia University.

"Any attempt to impose legislative restrictions on the teachers of science **is contrary to all principles on which the American Republic** has been founded." Charles MacFarland, General Secretary Federal Council of Churches of Christ in America, New York.

Anti-evolutionists though Claiming that Evolution Has Collapsed, Present Proof to the Opposite.

Reverend Conant should be complimented for presenting (pp. 12 and 13) a number of statements in favor of the theory which he is attempting to show is "unproven". A questionnaire sent to leaders in various intellectual pursuits would bring the number of defenders into the thousands.

"Dr. P. C. Mitchell says, in a late edition of the **Encyclopedia Britannica:** 'The vast bulk of botanical and biologi-

cal work on living and extinct forms published during the last quarter of the nineteenth century increased almost beyond all expectation the evidence for the fact of evolution."

"Professor S. C. Schmucker of the West Chester, Pennsylvania, State Normal School, in his book, 'The Meaning of Evolution', says: 'Among students of animals and plants there is no longer any question as to the truth of evolution. That the animals of the present are the altered animals of the past, that the plants of today are the modified plants of yesterday, that civilized man of today is the savage of yesterday and the tree dweller of the day before, is no longer debatable to the mass of biologists'."

"Professor Fish, then of Denison University, Granville, Ohio, not long ago dictated to his class the following statement: 'Organic evolution is the key to all biological thinking of today. It is not a theory but a fact, because the main facts are true'."

"Professor S. W. Williston, Department of Paleontology, University of Chicago, says: 'I know of no biologist, whether of high or low degree, who ventures to suggest a doubt as to the fundamental truths of organic evolution'."

"Professor William Patten, Department of Biology and Zoology, Dartmouth College, says: 'Evolution is the accepted doctrine of the natural sciences to the extent that it has long ceased to be a subject of debate in standard scientific journals or in organized conferences of men of science'."

"Professor Charles B. Davenport, Department of Experimental Evolution, Carnegie Institute, says; 'I do not know of a single modern scientific man who does not believe in evolution'."

"It is one of the foundation stones of Modern Biology," E. B. Wilson, Columbia University.

" 'With regard to the FACT of evolution there are now no dissenters among thinking people." Shull (1920).

" 'I am a firm believer in the theory of evolution, yet I belong to a church and consider myself a religious man.' " Dr. Charles D. Walcott, eminent geologist, and president of the American Association for the Advancement of Science.

CHAPTER XII.

EARLY WRITERS SEE GOD IN NATURE

"As from the old nest birds escape,
As sheds its leaves the living tree,
So if evolved from worm or ape
What odds if we at last are free?"

"If once but dust or ape or worm,
A growing brain and then a soul,
Sure these are but prophetic germ
Of that which makes our circle whole."
—John Albee.

The idea that the God of Scripture is the same as the God of Science has dominated the writings of the most progressive thinkers since the beginnings of the controversy between science and theology. This reverence for both science and religion is portrayed in the following brief passages from men who lived when comparatively few scientific facts were known. If they with their limited scientific knowledge could see the one living God of Progress reflected in natural phenomena, little apology should be offered for the fundamentalists who still hold that various scientific teachings are contrary to the Scripture and who are contending that **"Our churches have become hotbeds of infidelity, higher criticism and evolution"** and that **"THE MONKEY GOSPEL IS TODAY PREDOMINANT IN THE PROTESTANT CHURCH."** (Rev. H. G. Hamilton, Presbyterian, Rochester, Michigan—Signs of the Times, Vol. 50, No. I, 1923.)

More than a Century ago it was Claimed that Religion Progressed With Philosophy and Science.

Brande, "Outlines of Geology," published in 1817, said: "The evidences of Religion have advanced with the progress of true philosophy; and that **Science,** while she raises a monument to herself, at the same time **erects an altar to the Deity."**

In 1825 Granville Penn* Harmonized Science and Religion.

"The science of Geology, the last of those reserved measures of light which have been opened to us, has this remarkable character above all the preceding physical sciences: that, **it conducts the intelligence to a distinct recognition of that God of Nature in the God of Scripture . . . . . The God of Scripture has been careful to impress upon our minds that He is also the God of Nature; to pursue the evidence of that identity** is, therefore, only to follow the direction of that impression. If the God of Scripture has declared certain primeval events and operations to have taken place in this Globe to which the God of Nature only could have been privy, and if those events and operations are now at length discovered to be unequivocally attested by physical monuments universally existent and incorporated in the Globe; then, **the God of Scripture and the God of Nature are seen to be One and the same."**

Geological Facts as Known in 1851 Did not Contradict the Scripture.

(From "Course of Creation" by John Anderson, D. D., published by Wm. H. Moore & Co., Cincinnati in 1851).

"Geology is in its first step, and initial principles, in perfect accordance with the scripture record; and, in walking over the varied fields of creation, we shall tread all the firmer, and enjoy our recreations all the more, that we find the **word and works** of God illustrative of each other, revelation never contradicted, and science bearing enlightened testimony to the wonderful truth—that the hills melted like wax before the Lord . . . . Of all the geological phenomena that have passed under my review, I can safely affirm of them, in their darkest, deepest places, they have uniformly **led me 'from nature up to nature's God,'** and have inscribed upon them in brightest characters—**Benedictum sit nomen Dei."**

*"A Comparative Estimate of the Mineral and Mosaical Geologies." Published in London in 1825.

The God of the Scientist.

"The invisible things of God, from the creation of the world, are clearly seen; and we cannot, if we would, rid ourselves of the thought that somewhere and beyond there is not a 'primitive cause' only, but a Divine Being, the master of the universe, potentially in and present through all things. . . . . .

"Aristotle concludes his treatise 'De Mundo', with observing, that to treat of the world without saying anything of its Author would be impious, and he proceeds to show, on various grounds, the traces of an all-governing Deity. Newton concludes his great work, the "Principia," by some reflections on the nature of the Supreme Cause, and infers from the structure of the visible world, "that it is governed by one almighty and all-wise Being, who rules the world, exercising an absolute sovereignty over the universe, not as over his own body, but as over his work; and acting in it according to his pleasure, without suffering anything from it." Speaking of the laws by which God governs the world, and giving his definition of the term Law, Boyle says, 'I look upon a law as a moral, not a physical cause, as being, indeed, but a rational thing, according to which an intelligent and free agent is bound to regulate its actions. But inanimate bodies are utterly incapable of understanding what it is, or what it enjoins, or when they act comformably or unconformably to it; therefore, the actions of inanimate bodies, which cannot incite or moderate their own actions, are produced by real power, not by laws! Hence we infer that the intelligence by which the law is ordained, the power by which it is put in action, must be present at all times, and in all places where the effects of the law occur; that thus the knowledge and the agency of the Divine Being pervade every portion of the universe, producing all action and passion, all permanence and change. The laws of nature are the laws which He, in his wisdom, prescribes to his own acts; his universal agency the only origin of any efficient force

. . . . . .

"He who created the light, likewise formed the human body. And, amidst all the ignorance or misconceptions that may prevail as to the merit or demerit of particular actions, the moral principle points but to one foundation of truth—the One Supreme—the Lord of conscience as of creation.

"There is no exhausting nor wearing out of the energies of nature; **the arm that reared, still directs the stupendous fabric;** and as skill and contrivance are manifest in every part, the greatest simplicity combined with the most exquisite adjustments, the utmost regularity prevailing in every department, and no failure in the operations of a single law throughout the vastness of creation, the conviction of consummate wisdom and of infinite omniscience irresistibly strikes upon the mind . . . . . .

"Thus, step by step, we rise to the loftiest conception which the human mind can embrace—THE CONCEPTION OF A GOD—The personality, unity, and perfection of His being.

"Ignorance does not obliterate the sense of Deity; it confuses and multiplies the image of His existence; it leads to polytheism. KNOWLEDGE BRIGHTENS THE PICTURE, AND REPRESENTS THE CREATOR, **as reflected in his works,** EXCELLENT, GLORIOUS, AND INFINITELY PERFECT."

"The attempt to make religion static, to stunt its growth and to keep it in its infancy by enforced suppression, **can only damage religion itself;** it cannot hope to impede the inevitable march of science. HE WHO TEACHES THAT EVOLUTION AND RELIGION ARE INCOMPATIBLE IS A GREATER ENEMY OF RELIGION THAN OF SCIENCE. **He cannot injure science, but he may seriously damage religion."**—H. H. Newman, "Outlines of General Zoology." Published, July, 1924, MacMillan.

CHAPTER XIII.

THE USE AND MISUSE OF THE BIBLE*

By

LYMAN ABBOTT, 1922.

Can the Theory of Evolution be Reconciled with the Bible?

At almost the same time that I received a request for my opinion on the bill introduced into the Kentucky legislature forbidding the teaching of evolution in schools supported by the State, I received two letters, apparently from parents, dealing with the same subject, one of which reads as follows:

Could Dr. Abbott give an article explaining how the theory of evolution can be reconciled to the Biblical account of creation in teaching young children? E. J. F.

I answer, by teaching them the **nature and uses** of the Bible.

A child grows up in the home and imbibes the impression that the Bible is an infallible authority upon all subpects. His religious teaching in Church and the Sunday School is fragmentary; no attempt is made to give him any systematic religious instruction. He therefore systematizes it for himself. The result is something like this:

Six thousand years ago God made the world. He made it in six days and launched it on its voyage. Since that time he has done nothing more to it except occasionally to interfere with its natural operation, as in the Deluge, the destruction of Sodom and Gomorrah, and the crossing of the Red Sea. But that sort of thing he does not do any

* From "The Outlook", Page 29, Volume 130. By Courtesy of the publishers.

more. He made man perfect, as he made everything else perfect. But the first man disobeyed God, and all the disease and sin and misery in the world has resulted from that disobedience.

Evolution Is God's Way of Doing Things.

This child goes to school carrying some such idea as this with him. And before he gets through the high school he finds all secular teaching set on a different key. Life is progressive. Creation is continuous. As the tree grows by a progressive process from a seed, so the world has grown by a progressive process from chaos. As the man grows by a progressive process from the babe, so the race has grown by a progressive process from a prehistoric cradle. The child's religious impression has been that life is static, with occasional divine interventions. His entire system of school education is founded on the assumption that life is a continuous progress. There is no one to tell him that **"evolution is God's way of doing things."** And it will not be strange if he rejects the Bible which has never been interpreted to him, **the Church which has never interpreted itself to him, and religion which he has come to regard as a bar, not an inspiration, to progress.**

Paul says, "The law is good, if a man use it lawfully." By the law he means the Old Testament law. The Bible is good if it is used for the purpose for which it was given. But it was not given to teach geology or zoology or anthropology or any other of the modern sciences. Its legitimate use is very clearly defined in the Bible itself; it "is profitable . . . . for reproof, for correction, for instruction in righteousness."

For reproof: Its stories furnish standards by which we can judge ourselves and see wherein we are wrong.

For correction: Its counsels furnish directions by which we can guide ourselves into right paths.

For instruction in righteousness: Its maxims are nuggets of spiritual wisdom; its biographies are dramatic il-

lustrations of vices to be avoided and virtues to be emulated.

The Bible not a Scientific Book.

You can find better information as to the scientific processes of creation in Lyell's "Geology" or Darwin's "Descent of Man" than in the first chapter of Genesis; but nowhere a more illuminating illustration of the tragedy to which the spirit of lawless disobedience always leads than in the Garden of Eden story. Nowhere more concise and comprehensive interpretation of social morality than in the Ten Commandments, or more inspiring instruction in the nature and sources of personal righteousness than in the Sermon on the Mount. Probably nowhere in so short a compass the sorrowful end of the disappointed life of the profiteer in all ages as in the life of Jacob; certainly nowhere the story of a life so worthy of our reverent imitation as that of Jesus Christ, the model and the inspiration of Christendom for nineteen centuries.

The mother can render an invaluable service to her child if she can make herself acquainted with the spirit of modern education and can pursue the studies of her children with them as their intellectual companion. This is a far greater service to the world than any she can render by taking part in political reform or popular philanthropies. But if she cannot find or make the time, or has not the training, or cannot procure the books, she can at least study the Bible with her children and make it clear to them that it is not a book of science but a book of religious experience. If she is studying with them the first chapter of Genesis, when they have read together the eleventh verse, "And God said let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind," **they can go out and see in their garden God repeating this creative process.** When they come to the second chapter and read that "God breathed into man's nostrils the breath of life, and man became a living soul," she can explain to her children that this makes the difference between man and the cattle. The

cattle are God's creatures, we are his offspring; and she can impart to them her own ambition to live as becomes the offspring of God.

If we use the Bible as a scientific authority, we misuse the Bible. We use it aright when we use its stories of spiritual disaster and spiritual achievement as warning, instruction, and inspiration for our lives.

The brief article which appears above was one of Lyman Abbott's last contributions to the thesis that there is nothing in science that religion needs to oppose or fear. The great leader passed to his reward only a few weeks after the "Bryanites" made their drive in Kentucky. Had he been permitted to remain with us another year he would have been in the battle line with many other intellectual giants, attempting to direct the anti-evolutionists to the Living God of Progress as he did in the struggle of almost half a century ago. Should we not consider seriously the teachings of a **modern prophet** whose years were numbered into fourscore? The following clipping from the "Classmate," March 10, 1923 is an appropriate tribute to this eminent Christian evolutionist as well as to the cause which he represented:

"During the latter quarter of the nineteenth century thinking people—particularly young people who were progressive yet conscientious—felt the need of a leader, a guide, one who could be trusted to direct their steps through a maze of theological questioning and scientific discussion up and out into newer, clearer, truer vision; and for many this leader was Lyman Abbott, and by many he is reckoned among the prophets. When he died a short time ago, Dr. Henry Van Dyke wrote of him:

"He was like an old prophet, no, like a new prophet, for youth was always in his heart while his beard grew longer and whiter, and authority clothed the hopefulness of his message.'

"During those unhappy days of the '80's and '90's, when science and the church seemed to have each other by

the throat, Lyman Abbott came to the rescue. Science had climbed some high mountains, and returned reporting strange new discoveries; heedless, impulsive followers scrambled up the new trail and came back crying out, 'Throw away your Bibles, we have a new truth'; the churches hugged their Bibles the closer and declared they wished no new truth, 'The old-time religion was good enough for them'; young men and women were perplexed and troubled, studying the scientific theories in school and college, reading about them in the newspapers, hearing about them in the lecture hall, and then in many instances going to church and Sunday School to learn that they must not believe the new teachings.

"Then Lyman Abbott rose and declared that truth was always truth, and that the new vision should be investigated before it was thrust aside as error. And having the requirements for mountain climbing—a keen eye for the things ahead and feet firmly planted on the eternal foundations, courage to investigate and pluck to face the odds, patience and persistence to dig into the new and compare with the old, judgment and caution in arriving at conclusions and in announcing his decisions, a clear brain for understanding the new and a stout heart for supporting the old—he ascended the mountains with the scientists. **He returned triumphantly, affirming that he loved and honored and admired and revered God more than ever,** AND THAT THE LIGHT FROM THE MOUNTAIN PEAKS FALLING ON HIS OPEN BIBLE AND ON HIS OPEN HEART MADE THE OLD BOOK SHINE AS IT NEVER HAD BEFORE. And so he saved the day, and he saved untold numbers of young people for his church and to the faith of their fathers."

> **"What religion needs just now is resurrection from the limbo of antiquities** and the crypt of esoteric circles of specialists."
> —The Christian Century, March 23, 1923.

CHAPTER XIV.

GOD AND EVOLUTION

Darwin's Theory of Natural Selection*

By

S. PARKES CADMAN, D. D., S. T. D.,
Brooklyn, N. Y.

Influence of Darwinism.

The observation of Novalis that nature will, as if of herself, open to the man, who conceives of her in correspondence with the truest and most gracious essences of his soul, can be appropriately applied to Charles Darwin. More than a hundred years have elapsed since his birth, the last fifty of which have been under his domination as a scientist. He was the first to receive and transmit a light which, without him, might have been indefinitely delayed. Its diffusion caused an intellectual revolution which raised the Victorian age to its climax, and has had no equal in the modern world since the Renaissance. His mind, notwithstanding its slowness in maturing, was pierced to its profoundest depths by his persistent and penetrative thinking. From it flowed a broad and deep stream of creative speculation, based upon inductive methods. The stream irrigated other minds, fertilizing large and important areas of thought and research. He stimulated scientific inquiry to an unprecedented degree and mapped out the lines on which it could proceed to ascertainable ends. His conclusions, which overcame formidable opposition, gave coherence and meaning to the huge and baffling accumulations of natural learning. The forces, he quickened, swept away the artificial barriers to fearless and resolute intellectualism. **The evolutionary hypothesis sanitated science and even refined**

* From the Homiletic Review, June 1922. By courtesy of S. Parks Cadman and the Publishers.

moral and religious issues. It also enriched the entire field of human effort with fresh promise; for though biology was the cradle of the hypothesis, it soon spread into every realm of learning.

The philosopher, the theologian, the statesman, the historian, and the reformer yielded to its spell, adopted its terminology, and appreciated its forward-looking tendencies. It seemed to furnish solutions for innumerable complications of the past, while it touched the future in optimistic and attractive ways. The hope for general advantage and gradual betterment became more reasonable to humanists who determined to try out the wonder-working theory in politics, ethics, and religion. Those who fought it were infected by it, and it is somewhat amusing still to hear their unconscious concessions to the "Darwinism" they denounce. To Darwin belongs the credit, therefore, for inoculating his own and after generations with the majestic conception of an unbroken and resistless continuity of life; a life with inherent qualities which preserve its continuity, a life which never turns back, and always proceeds from the lower to the higher. This conception has been elaborated by the eloquent Frenchman, Henri Bergson. It governs much of the considerate philosophy and teaching of our day; and when regarded for itself alone and apart from a beggared materialism which perverts it, the idea of continuous progressive life is the foremost architectural concept of the best teaching of the age.

What Newton Did for the Heavens, Darwin Did for the Earth.

Darwin died on April 19th, 1882, and five days later he was buried in Britain's "temple of silence and reconciliation," the historic abbey at Westminster which is the heart of a splendid empire. The interment expressed the public feeling that so illustrious a servant of the common good should receive the highest honor which Great Britain can bestow upon her deceased princes. His body rests by the

side of that of Sir Isaac Newton, who shares with Darwin the "opprobium" of heretics of yesterday. What Newton did for the heavens, Darwin did for the earth. Just so surely as Newton's discovery of the law of gravitation established order in spatial chaos, and laid the foundation for all future study of astronomy; so surely Darwin's discovery, and demonstration of the law of natural selection, clothed the world with creative glory and laid the foundation for all future study of biological phenomena. His aptitude for patient and prolonged reflection, his sweetness of temper and lowliness of bearing, were inherited in large measure from his mother. Inclined as he was in youth to natural pursuits, the reading of Herschel's **Introduction to the Study of Philosophy** stirred in him the ambition to add even the humblest contribution to the structure of the physical sciences. For this, he went to Cambridge University where he became acquainted with Professor Sedgwick. Here he began to doubt orthodox opinions as to the geological formation of the earth. His tour in North Wales with Professor Sedgwick led to some amiable but decided differences of opinion about the strata of that province. At the close of their investigation Darwin returned home to find and accept an invitation to join the expedition of the Beagle, a weather-beaten government hulk sent out for surveying, sounding, and kindred work. His official record of the cruise, which lasted five years, appeared in 1839, and at once secured the approbation of learned circles in Europe and America. What was far more important, it stamped its seal upon the young naturalist and his life task, and was the pivotal event in his great career. The discipline, assiduity, self-reliance, and detachment, due to his enforced solitude and constant toil on shipboard, made him a different being. When he landed in England at the end of the voyage, his father, who met him at the dock exclaimed: "The shape of his head has changed!" Much else had changed.

"Darwinism" Known before Darwin.

Darwin did not, as has often been supposed, discovered in South America or elsewhere the doctrine of natural selection, nor was he the original exponent of evolution. The origin of species and the changes which species undergo were surmised in a general way by numerous thinkers from Lucretius to Roger Bacon, from Bacon to Goethe, De Candolle the Elder, Lamarck, Buffon, and Chambers. These savants foreshadowed ideas which Darwin verified. A poet's intuition in Lucretius awaited for centuries a scientist's thirty years of Herculean toil in Darwin for its means of proof. The possibility or otherwise of substantiating current conceptions of the immutability of species had haunted intelligent minds. But popular theology, which was also the thought of the prevailing school of scientists, forbade deductive methods and original research where these were inimical to a supposititious Biblical infallibility. Geological strata and the embarrassing fossil remains found in them were attributed to a series of cataclysms, of which the deluge was the last and the mightiest. After each of these catastrophies, the planet was again tenanted with life by special re-creations. The fatal objection to this theory was its irrationality. **It charged the Creator with folly, wanton destructiveness, and rule by mere caprice. Surely something more stable and more capable of reasonable explanation was worthy of the Deity to whom such recurrent overwhelming calamities were piously ascribed.** But the absence of a determinative principle on the crucial point, and the pronounced presence of a virile faith in Mosaic poetry, as both actual science and history, prevented pleaders for a uniform order from fortifying their position. They were unable to accept the orthodox view and impotent to confirm its alternative.

Darwin's solution of the difficulty was not premeditated. True, when he excavated the fossil remains of animals on the South American pampas, he noted their resemblance to their living progenies feeding around him, and the pal-

pable untenableness of the catastrophic theory flitted through his mind. He began to grope for a satisfactory explanation of the curious analogy. But absorption of other matters and the cataloging of his abundant material monopolized him until the saliency of further reflection eventually severed him from the moorings of Biblical and scientific traditions. In this disturbed state he chanced to read Malthus upon **The Principle of Population**; an essay which enforces the argument that nature has self-restraint, so that when life increases beyond the provisions of its subsistence, the weak perish and the strong survive. It flashed across Darwin's mind that a similar self-restraint operated in the organic world, resulting in the formation of new species and accounting for the disappearance of unfavorable variations. The association between the warfare of individual types and the consequent succession or extermination of species is the gist of the evolutionary theory.

Evolution has been Tested—It is the Creator's Method.

Always cautious and critical, Darwin avoided the precipitation of his sudden inspiration. He brooded over and tested it; casting and recasting it for twenty years before he published it. Dr. Alfred Russell Wallace nearly won the Olympian race by prematurely publishing what Darwin had first formulated. And there is no nobler instance of self-abnegation in the annals of science than that which Wallace exemplified when he relinquished all claims to priority, and awarded the palm to one of whom he spoke as the giant of biological inquiry.

The discussion of this transforming conception aroused regrettable but natural acerbity. In the heat of fervid disputation, scientists and theologians alike forgot that Darwin was what Wallace described him; a great and unequaled expert in his own realm. They ignored the moderation of his discussions, made no allowance for his admission that many things must remain obscure, and overlooked his assumptions, altho these were colossal enough to glut the appetite of confirmed miracle-lovers. Orators, doc-

tors, and popular divines uncompromisingly insisted that all scientific research must be chained t othe primitive cosmogony of Genesis. Yet Darwin himself was fully aware that his theory began with a preexisting world upon its known attributes. If he were allowed to premise a universe in which law and order were supreme, conservation of energy everywhere apparent, and the planet itself in complete harmony with the whole of physical creation, he had the august theatre for his theory. But he also had to premise life, in itself a tremendous assumption; life, not passive and inert, but active and reciprocal; indeed, organic life, existing in a vital environment and having capacities for further development. No cosmogony really requires more than I have stated, which is the irreducible minimum of Darwin's grand experiment. It presupposed power, wisdom, and, in a sense, benevolence too vast for human imagination to encompass. With this essential equipment, Darwin proposed to show how that particular world came to be occupied with a variety of living beings. What objection could there be to his proposal? The answer is that those who made them have always been purer in motive than in practice. Those who were persuaded that spiritual realities are in-extricably woven into the dogma of direct creation were appalled by the process of natural selection. They refused to concede that divine aims are as beneficently expressed in the one method as the other. The powerful sentiment, due to the sanctity with which the Hebrew Scriptures have been invested and the sublimation of their poetical statements by Milton's noble genius, were arrayed against this daring innovator who portrayed things as they are. **He did no more than submit to open inquiry the proofs he had found in creation, which indicated what the Creator's methods are.** But extremists on both sides of the controversy rushed on, heedless of the fact that all truth is relative, and that its terms are necessarily limited and liable to confusion. "Force," "cause," and kindred expressions are metaphorical, not metaphysical; the language of deli-

cate and complicated psychical states. So far as man is in the picture, the dead dust of the first Adam's composition is lower in the scale than the flesh and blood of the living ape, and more prejudiced to what we find in man's physical existence than the stirrings of life in the feeblest microbe that breathes. Since it was God's intention to bring man upon the scene, that intention is as dignified and not less purposeful, when realized through natural channels, than as if ordained by fiat and achieved by immediate acts. The Biblical account reflects the primitiveness of its age; **the Darwinian explanation appeals to me as the greatest I have ever known as regards the attributes of the Presiding Mind.** The development of man's ethical and intellectual nature proceeds from the empire of spirit in which that mind presides. It is also predicted by three stages which contain much besides the human. **In the unfolding of organic life a superior Power has entered into action.** The first stage of its adorable energy marks the change from the inorganic to the organic, when the earliest vegetable cell was a veritable wonder hitherto foreign to the earth. The second stage heralds the advent of consciousness as the separating faculty between the animal and vegetable kingdoms. The third stage is the appearance in man of those primary moral characteristics which elevate him above the rest of animate creation, and presage for him an endless progress lost in the vistas of possible perfectibility. The empire of spirit, which ordains these stages and for which the world of matter is a subordinate agent, is independent of purely biological science and can be reasonably regarded as the emanation of the Supreme Being. If this argument is approximately correct, evolution is homocentric by divine assignment. **It does not degrade man; he confers dignity and honor upon evolution.** He is the crown and the interpreter of its ageless pulsations, the one creature whose every act of freewill is a standing miracle to physical, chemical, and mathematical science. He reflects the image of his Maker; he unveils the ethical meaning of the universe; he imparts

its value to sentient existence; and compensates it for its trials and losses. Through him and, above all, through the incarnate Christ, the "horticultural ethic" supplants the natural ethic, protecting the defenseless and succoring the weak. Without man's allegiance to God and apart from Christ as the Federal representative of the race, the cosmos, which is so lovely and entrancing, would be precisely as though it had not been—an idiotic tale signifying nothingness and blank despair.

Darwinism Should be Accepted as an Ally to the Church.

The sinister side of the evolutionary theory does not belong to the hypothesis as such. It grows on a twofold root: the neglect of Christian theology to baptize the theory into faith, and the effort of a bankrupt, materialistic philosophy to clothe the nakedness of its metaphysics in the garb of natural selection. **Had the Church been quick to seize the skirts of cirmustances, the Darwinism discovery would have served her well.** Its elements are congenial to New Testament teaching, and its cosmogony is better than that of Mosaism. Wherein churchmen and preachers failed to avail themselves, agnostic thinkers like Haeckel, Buchner, Clodd, and Nietzsche saw their opportunity. They set up their own stand and exhibited strange wares which bore the label of evolution—**but not according to Darwin.** Granted a fortuitous concourse of atoms, the theory they advanced asks no more assistance, human or divine, and leaves no gap between the "concourse" and Shakespeare or St. Paul. This was the unwarranted extension of a decadent philosophy, whose raw rationalizings and intellectual improprieties culminated in a mechanical arrangement which sought to "conduct Deity to the verge, and bow him out with thanks for his past services."

Intellectual Peace is Not Obtained by Strangling Thought.

In conclusion, preachers must remember that intellectual peace is not obtained by strangling thought. The use-

less warfare of science and religion has been an ignominious record for the Church, because her leaders have tried to repress free inquiry only to drive its advocates into open hostility. Nor can believing men, for long, escape the ceaseless invasions of fresh knowledge. If, for the time being, they do escape them and endeavor to treat them as negligible, this policy but postpones the day of a disastrous reckoning. The sole function of science is to deal with the phenomena of visable creation. The sole function of religion is to deal with the realities of the invisible universe. If there is a breach of intellectual harmony between them, it can be healed by steadfast conformity to the authority of truth, not of dogma, and by an unshaken trust in the ultimate triumph of truth. Evolution, as a theory of causation is worthless; as a theory of methods it is at least harmless; and as an **evidenced method of divine operation in nature, it is nearest to the facts of nature.** Judged as a doctrine of automatic causality, it is altogether impossible. **Judged as a demonstrable way of the All Wise, it is awe-inspiring,** and in consonance with the character of Deity. While the planet we occupy has pursued its numberless cycles, held in its orbit by the laws of gravity, endless species of wonderful structures and symmetry were evolved from rudimentary forms. Let scientists revel in the descriptions and formulations of the process, while preachers and theologians concentrate upon the causal and purposive interpretations which religion necessitates. Then the word of the risen Lord, "The Father worketh hitherto, and I work," will receive fresh impetus. And evangelical men will not be asked to forfeit intellectual integrity in order to placate a perilous and out worn orthodoxy.

CHAPTER XV.

EVOLUTION AND RELIGION*

By

HENRY FAIRFIELD OSBORN

Curator American Museum of Natural History

"The Christan's God of Love is the scientist's God of Law," and now "since we accepted evolution, a number of eminent scientists have publicly confessed their faith in God."—Shailer Mathews.

"Truth is Truth and Must Prevail"—Bryan.

These words constitute the solid rock on which enduring religion and the only enduring knowledge of nature rest while the shifting sands of human opinion are swept hither and thither both in Theology and in Science. Wrecked on these sands of opinion are many great names, both in theology and in science, but fortunately there have lived some wise pilots of nature who would have kept our thinking straight if we had kept their counsel. I had the good fortune to fall under the influences of James McCosh, natural philosopher and divine, who, in his lectures on Christianity and Positivism, accepted evolution, with most of its implications in the year 1876.

Thirteen years earlier, in 1863, Charles Kingsley, whose religion no one has ever challenged, struck the note of truth only four years after Darwin's "Origin of Species" appeared when he wrote to Frederick Maurice, one of the most profoundly religious men that England has produced, "Darwin is conquering everywhere, and rushing in like a flood, by the mere force of truth and fact. The one or two who hold out are forced to try all sorts of subterfuges as to fact, or else by evoking the odium theologium."

Kingsley describes himself as "busy working out points of

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* From the New York Times by Courtesy of Henry Fairfield Osborn.

natural theology by the strange light of Huxley, Darwin and Lydell. I think I shall come to something worth having before I have done." While in the van of the religious thinkers of his time, Kingsley was not in a position to answer the question, "Did God use evolution as His plan?" for evolution in 1863 rested on the indirect or circumstantial evidence presented by Darwin, while in 1922 **it is the most firmly established truth in the natural universe** and, in Mr. Bryan's language, we shall have to accept it regardless of its effect. Let us therefore, glance at some of these effects.

That you may avoid all religious doubts and difficulties, let us accept as the foundation of your faith the creed which runs through the Old and New Testaments alike and is best expressed in the grand old Latin phrase, "Pleni sunt coeli et terra tua gloria." Without this creed, you may be an atheist or an agnostic. With this creed, you are obliged to surrender the preconceptions of man in his ignorance as to the sun moving around the earth, as Joshua believed, as to the flatness of the earth, as to the universe being formed in six days of twenty-four hours, as to all the millions of species of animals and plants being made in the image of God in one day, as to woman being made out of a rib of man, you remain serene, because you humbly accept the universe, and man as God willed them. You may be convinced that your misgivings and prejudices against Nature will all be resolved, if you simply repeat to yourself: I accept Nature as God made it; truth is truth and must prevail.

The Bible a Proof of the Spiritual and Moral Evolution of Man.

Nothing should be more clearly or more emphatically taught to our youth than that **the Bible is the story of the spiritual and moral progress of man,** in a less degree his intellectual progress—in these senses **a perpetual source of inspiration,** of religious consolation, and inspiration and conduct. We naturalists may accept as transcendent teach-

ing that the universe is by no means the result of accident or chance, but of an omnipresent beauty and order, in the Old Testament attributed to Jehovah, in our language to God. **Evolution by no means takes God out of the universe,** but it greatly increases both the wonder, the mystery, and the marvelous order which we call "Natural Law" prevading all Nature.

No child should be taught that the Bible tells the story of Nature as it has been revealed to us through two thousand years of observation, and especially during the last one hundred years. There was no curiosity of Nature among the writers of the Bible, as there is little natural curiosity among the Orientals today. It was not until the Book of Job was written about 250 B. C. that we find the guiding precept of the naturalist, "Speak to the earth and it shall teach thee."

To St. Augustine (354-430 A. D.—the great theologian of the fifth century) may be referred for a sound and thoroughly modern theistic conception of evolution. Augustine held that **all development takes its natural course through the powers imparted to matter by the Creator;** even the bodily structure of man himself is according to this plan, and therefore a product of this natural development; he taught that in the institution of Nature we should not look for miracles, but for the laws of Nature; he distinctly rejected the Mosaic idea of the six-day creation, in favor of the teaching which, without violence to language, we may call a theory of evolution; that all things developed by causal energy and potency, not only the heavens, but also those living things which the waters and the earth produced, so that in due time, after long delays, they developed into their perfected forms.

We may now leave this metaphysical part of the subject and return to the evidence that evolution was the plan and the only plan of Nature; that all species of animals and plants originated in this way; that man has ascended from the ranks of Nature. There was a time when

man considered himself greatly superior to the animal kingdom, in fact the Psalmist exalts him, giving him dominion over the whole earth; but since 1914 man has become more humble, he is not quite so confident of his superiority over the rest of God's creation.

Origin of Species Absolutely Solved.

The mode of origin of species was practically discovered by a little-known German paleontologist by the name of Waagen in 1869, but like the great discovery of Mendel in heredity, this truth has been long in making its way, even among biologists. Waagen's observations that species do not originate by chance or by accident, as Darwin at one time supposed, but through a **continuous and well-ordered process,** has since been confirmed by an overwhelming volume of testimony, so that we are now able to assemble and place in order line after line of animals in their true evolutionary succession, extending, in the case of what I have called the edition de lux of the horses, over millions of years. We speak to the earth from Eocene times onward to the closing age of man and it always teaches us exactly the same story. These facts are so well known and make up such an army of evidence, that they form the chief foundation of the statement that evolution has long since passed out of the domain of hypothesis and theory, into the domain of natural law.

Evolution takes its place with the gravitation law of Newton. It should be taught in our schools simply as Nature speaks to us about it, and entirely separated from the opinions materialistic or theistic, which have clustered about it. **This simple direct teaching of Nature is full of moral and spiritual force, if we keep the element of human opinion out of it. The moral principle inherent in evolution is that nothing can be gained in this world without an effort; the ethical principle inherent in evolution is the evidence of beauty, of order, and of design in the daily myriad of miracles to which we owe our existence.**

Evolution of Man Firmly Established.

It would not be true to say that the evolution of man rests upon evidence as complete as that of the horse, for example, because we have not traced man's ancestors back for a period of 400,000 years (as geologic time was conservatviely estimated in 1893 by Secretary Walcott of the Smithsonian Institution, Washington;) whereas, we have traced the horse back for a period of 3,000,000 years according to similar estimate of geologic time.

The very recent discovery of tertiary man, which I have just described in Natural History (November-December 1921) living long before the Ice Age certainly capable of walking in an erect position, having a hand and a foot fashioned like our own, also a brain of sufficient intelligence to fashion many different kinds of implements, to make a fire, to make flint tools which may have been used for the dressing of hides for clothing, constitutes the most convincing answer to Mr. Bryan's call for evidence. It once more reminds us of the ignorance of man of the processes of Nature, and sets a new boundary beyond which digging in the earth for more of truth must be directed. This Foxhall man found near Ipswich, England, thus far known only by the flint implements he made and his fire, is the last bit of evidence in the direction of giving man a descent line of his own far back in the geologic time. It tends to remove man still further from the great lines which lead to the man apes, the chimpanzee, the orang, the gorilla and the gibbon. **This is not guess work, this is fact.** It is another truth which we shall have to accept regardless of its effect. No naturalist has ever ventured to place man so far back in geologic time as this actual discovery of the Foxhall man places him. In this instance again truth is stranger than hypothesis or speculation.

Nearer to us is the Piltdown man found not far from seventy-five miles to the southwest of Ipswich, England; still nearer in geological time is the Heidelberg man, found on the Nechar river; still nearer is the Neanderthal man

whom we now know much about—his frame, his head form, his industries, his ceremonial burial of the dead, also evidence of his belief in future existence; nearer still is the Cro-Magnon man who lived about 30,000 years ago. This chain of human ancestors was totally unknown to Darwin. He could not have even dreamed of such a flood of proof and truth. It is a dramatic circumstance that Darwin had within his reach the head of the Neanderthal man without realizing that it constituted the "Missing link" between man and the lower order of creation. **All this evidence is to-day within reach of every schoolboy.** It will, we are convinced, satisfactorily answer in the negative the question; "Is it not more rational to believe in the creation of man by a separate act of God than to believe in evolution without a particle of evidence?"

(Vernon Kellogg concludes his timely article on "Where Evolution Stands Today" (The New Republic, April 11, 1923) as follows: "Every year the old proofs of evolution are reconfirmed and new ones found. Evolution is proved by all the evidences of comparative anatomy, embryology, paleontology and geographical distribution, evidences, which increase in amount every year. The evidence from any one of these fields of science alone is sufficient to prove evolution; from them all together it is overwhelming.

"All this supplies to the evolution of man as well as to the evolution of plants and lower animals. The old evidences of human evolution from lower animal forms, based chiefly on comparative anatomy and embryology and the existence and suggestive distribution of various living human types, has been in recent times especially confirmed by numerous finds of fossils of prehistoric, anciently prehistoric, man. The series from Pithecanthropus to Homo sapiens is being steadily revealed, with every promise of the early future filling in of the remaining gaps. There has been also, in recent times, a notable addition to the proof of man's relationships to other animals through physiological discoveries, especially those relating to blood characters.")

CHAPTER XVI.

MR. BRYAN AND EVOLUTION*

By

HARRY EMERSON FOSDICK

"The silver tongue of Bryan cannot overcome the gold of ascertained facts. But it can hypnotize many people for a longer or shorter time by its tinkling."—Vernon Kellogg, "The New Republic," April 11, 1923.

I reply to Bryan's statement on "God and Evolution" to voice the sentiments of a large number of Christian people who in the name of religion are quite as shocked as any scientist could be in the name of science at Mr. Bryan's sincere but appalling obscurantism.

A Hypothesis.

So far as the scientific aspect of the discussion is concerned, scientists may well be left to handle it. Suffice it to say that when Mr. Bryan reduces evolution to a hypothesis and then identifies a hypothesis with a "guess" he is guilty of a sophistry so shallow and palpable that one wonders at his hardihood in risking it. A guess is a haphazard venture of opinion without investigation before, or just reason afterward to sustain it; it is a jeu d'esprit. But a hypothesis is a seriously proffered explanation of a difficult problem ventured when careful investigation of facts points to it, retained as long as the discovered facts sustain it, and surrendered as soon as another hypothesis enters the field which better explains the phenomena in question.

Every universally accepted truth which we possess began as a hypothesis, is in a sense a hypothesis still, and has become a hypothesis transformed into a settled conviction as the mass of accumulating evidence left no question as to

* From the Christian Century, March 23, 1923. By Courtesy of Harry Emerson Fosdick and the Publishers.

its substanial validity. To call evolution, therefore, a guess is one thing; to tell the truth about it is another, for to tell the truth involves recognizing the tireless patience with which generations of scientists in every appropriate field of inquiry have been investigating all discoverable facts that bear upon the problem of mutation of species, with substantial unanimity as to the results so far as belief in the hypothesis of evolution is concerned. When Darwin, after years of patient, unremitting study, ventured his hypothesis in explanation of evolution—a hypothesis which was bound to be corrected and improved—one may say anything else one will about it except to call it a "guess". That is the one thing which it certainly was not. Today, the evolutionary hypothesis, after many years of pitiless attack and searching investigation, is, as a whole, the most adequate explanation of the facts with regard to the origin of species that we have yet attained, and it was never so solidly grounded as it is today. Dr. Osborn is making, surely, a safe statement when he says that no living naturalist, so far as he knows, "differs as to the immutable truth of evolution in the sense of the continuous fitness of plants and animals to their environment and the ascent of all the extinct and existing forms of life, including man, from an original and single cellular state."

The Real Situation.

When, therefore, Mr. Bryan says, "Neither Darwin nor his supporters have been able to find a fact in the universe to support their hypothesis," it would be difficult to imagine a statement more obviously and demonstrably mistaken. The real situation is that every fact on which investigation has been able to lay its hands helps to confirm the hypothesis of evolution. There is no known fact which stands out against it. Each newly discovered fact fits into an appropriate place in it. So far as the general outlines of it are concerned, the Copernician astronomy itself is hardly established more solidly.

My reply, however, is particularly concerned with the theological aspects of Mr. Bryan's statement. There seems to be no doubt about what his position is. He proposes to take his science from the Bible. He proposes, certainly, **to take science that is contradicted by the Bible.** He says, "Is it not strange that a Christian will accept Darwinism as a substitute for the Bible when the Bible not only does not support Darwin's hypothesis, but directly and expressly contradicts it?" What other interpretation of such a statement is possible except this: That the Bible is for Mr. Bryan an authoritative textbook in biology—and if in biology, why not in astronomy, cosmogony, chemistry or any other science, or art . . . ? One who is acquainted with the history of **theological thought gasps as he reads this.** At the close of the sixteenth century a Protestant theologian set down the importance of the book of Genesis as he understood it. He said that the text of Genesis "must be received strictly"; that "it contains all knowledge, human and divine"; that "twenty-eight articles of the Augsburg Confession are to be found in it"; that "it is an arsenal of argument against all sects and sorts of atheists, pagans, Jews, Turks, Tartars, Papists, Calvinists, Socinians, and Baptists"; that it is "the source of all science and arts, including law, medicine, philosophy, and rhetoric", "the source and essence of all histories and of all professions, trades, and works", "an exhibition of all virtues and vices", and "the origin of all consolation".

Luther and Bryan.

One had supposed that the days when such wild anachronisms could pass muster as good theology were passed, but Mr. Bryan is re-galvanizing into life that same outmoded idea of what the Bible is and proposes in the twentieth century that we shall use Genesis, which reflects the pre-scientific view of the Hebrew people centuries before Christ as an authoritative textbook in science, beyond whose conclusions we dare not go.

Why, then, should Mr. Bryan complain because his attitude toward evolution is compared repeatedly, as he says it is, with the attitude of the theological opponents of Copernicus and Galileo? On his own statement, the parallelism is complete. **Martin Luther attacked Copernicus with the same appeal which Mr. Bryan uses.** He appealed to the Bible. He said: "People gave ear to an upstart astrologer who strove to show that the earth revolves, not the heavens or the firmament, the sun and the moon. Whoever wishes to appear clever and wise must devise some new system, which of all systems is, of course, the very best. This fool wishes to reverse the entire science of astronomy, but sacred Scripture tells us that Joshua commanded the sun to stand still and not the earth".

Nor was Martin Luther wrong if the Bible is indeed an authoritative textbook in science. The denial of the Copernican astronomy with its moving earth can unquestionably be found in the Bible if one starts out to use the Bible that way—"The world also is established, that it cannot be moved" (Psalm 93:1); "Who laid the foundations of the earth, that it should not be moved forever" (Psalm 104:5). Moreover, in those bygone days the people who were then using Mr. Bryan's method of argument did quote these passages as proof, and Father Inchofer felt so confident that he cried, "The opinion of the earth's motion is of all heresies the most abominable, the most pernicious, the most scandalous; the immovability of the earth is thrice sacred; argument against the immortality of the soul, the existence of God, and the incarnation should be tolerated sooner than an argument to prove that the earth moves."

The Hebrew Universe.

Indeed, as everybody knows who has seriously studied the Bible, that book represents in its cosmology and its cosmogony the view of the physical universe which everywhere obtained in the ancient Semitic world. The earth was flat and was founded on an underlying sea (Psalm 136:

6; Psalm 24: 1-2; Genesis 7:11); it was stationary; the heavens, like an upturned bowl, "strong as a molten mirror" (Job 37:18; Genesis 1:6-8; Isaiah 40:22; Psalm 104:2), rested on the earth beneath (Amos 9:6; Job 26:11); the sun, moon, and stars moved within this firmament of special to illumine man (Genesis 1:14-19); there was a sea above the sky, "the waters which were above the firmament" (Genesis 1:7; Psalm 148:4)) and through "the windows of heaven" the rain came down (Genesis 7:11; Psalm 78:23); beneath the earth was mysterious Sheol where dwelt the shadowy dead (Isaiah 14: 9-11); and all this had been made in six days, each of which had had a morning and an evening, a short and measurable time before (Genesis 1).

Are we to understand that this is Mr. Bryan's science, that we must teach this science in our schools, that we are stopped by divine revelation from ever going beyond this science? Yet this is exactly what Mr. Bryan would force us to if with intellectual consistency he should carry out the implication of his appeal to the Bible against the scientific hypothesis of evolution in Biology.

The Bible's Precious Truths.

One who is a teacher and preacher of religion raises his protest agains all this just because it does such gross injustice to the Bible. There is no book to compare with it. The world never more needed its fundamental principles of life, its fully developed views of God and man, its finest faiths and hopes and loves. **When one reads an article like Mr. Bryan's one feels, not that the Bible itself is being defended but that it is being attacked.** Is a 'cello defended when instead of being used for music it is advertised as a good dinner table?

Origins and Values

The fundamentalist school fears that evolution will depreciate the dignity of man. Just what do they mean?

Even in the Book of Genesis God made man out of the dust of the earth. **Surely, that is low enough to start and evolution starts no lower.** So long as God is the Creative Power, what difference does it make whether out of the dust by suddden fiat or out of the dust by gradual process God brought man into being. Here man is and what he is, he is. Were it decided that God had dropped him from the sky, he still would be the man he is. If it is decided that God brought him up by slow gradations out of lower forms of life, he still is the man he is.

The fact is that process by which man came to be upon the planet is a very important scientific problem, but it is not a crucially important religious problem. Origins prove nothing in the realm of values. To all folk of spiritual insight man, no matter by what process he at first arrived, is the child of God, made in his image, destined for his character.

Danger of Materialistic Teaching

One writes this with warm sympathy for the cause which gives Mr. Bryan such anxious concern. He is fearful that the youth of the new generation, taught the doctrine of a materialistic science, may lose that religious faith in God and in the realities of the spiritual life on which alone an abiding civilization can be founded. His fear is well grounded, as every one closely associated with the students of our colleges and universities knows. Many of them are sadly confused, mentally in chaos, and, so far as any guiding principles of religious faith are concerned are often without chart, compass or anchor.

There are types of teaching in our universities which are hostile to any confidence in the creative reality of the spiritual life—dreary philosophies which reduce everything to predetermined mechanical activity. Some classrooms doubtless are, as Mr. Bryan thinks, antagonistic, in the effect which they produce, alike to sustained integrity of character, buoyancy and hopefulness of life and progress

in society. But Mr. Bryan's association of this pessimistic and materialistic teaching with the biological theory of evolution is only drawing a red herring across the real trail. The distinction between inspiring, spiritually minded teachers and deadening, irreligious teachers is not at the point of belief in evolution at all. Our greatest teachers, as well as the poorest, those who are profoundly religious as well as those who are scornfully irreligious, believe in evolution. The new biology has no more to do with the difference between them than the new astrnomy or the new chemistry.

Heart of Problem.

The real crux of the problem in university circles is whether we are going to think of creative reality in physical or in spiritual terms, and that question cannot be met on the lines that Mr. Bryan has laid down. Indeed, the real enemies of the Christian faith, so far as our students are concerned, are not the evolutionary biologists, but folk like Mr. Bryan who insist on setting up artificial adhesions between Christianity and outgrown scientific opinions, and who proclaim that we cannot have one without the other. The pity is that so many students will believe him and, finding it impossible to retain the outgrown scientific opinions, will give up Christianity in accordance with Mr. Bryan's insistence that they must.

Quite as amazing as his views of the Bible is Mr. Bryan's view of the effect of evolution upon man's thought of God. If ever a topsy-turvy statement was made about any matter capable of definitive information, Mr. Bryan's statement deserves that description, for it turns the truth upside down. He says: "The theistic evolutionist puts God so far away that he ceases to be a present influence in the life, ... Why should we want to imprison God in an impenetrable past? His is a living world. Why not allow him to work now?" But the effect of evolution upon man's thought of God, as every serious student of theology knows, has been directly the opposite of what Mr. Bryan supposes.

It was in the eighteenth century that men thought of God as the vague, dim figure over the crest of the first hill who have this universal toboggan its primeval shove and has been watching it sliding ever since. It was in the eighteenth century that God was thought of as the absentee landlord who had built the house and left it—as the shipwright who had built the ship and then turned it over to the master mariners, his natural laws. Such ideas of God are associated with eighteenth century Deism, but the nineteenth century's most characteristic thought of God was in terms of immanence—God here in this world, the life of all that lives, the sustaining energy of all that lives, as our spirits are in our bodies, permeating, vitalizing, directing all.

God is not a Carpenter.

The idea of evolution was one of the great factors in this most profitable change. In a world nailed together like a box, God, the creator, had been thought of as a carpenter who created the universe long ago; now, in a world growing like a tree, evermore putting out new roots and new branches, God has more and more been seen as the indwelling spiritual life. Consider that bright light of nineteenth century Christianity, Henry Drummond, the companion of D. L. Moody in his evangelistic tours. He believed in evolution. What did it do to his thought of God? Just what it has done to the though of multitudes. Said Drummond: "If God appears periodically he disappears periodically. If he comes upon the scene at special crises, he is absent from the scene in the intervals. Whether it is all-God or occasional-God the nobler theory? Positively the idea of an immanent God, which is the God of evolution, is infinitely grander than the occasional wonder-worker who is the God of an old theology".

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